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**An investigation of Staff Attitudes towards Challenging Behaviour in
Intellectually Disabled Offenders: Exploring the influence of staff
characteristics and behavioural attributions.**

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ABSTRACT

Introduction: The present study aims to investigate staff attitudes towards Intellectually Disabled (ID) offenders. Despite considerable psychological research investigating attitudes and their relationship with behaviour, particularly within healthcare settings, this is one of the first studies to explore attitudes towards ID offenders. Due to this lack of research, consideration was firstly given to attitudinal research within ID and offender populations separately.

Historically societal attitudes towards individuals with ID or those who offend have been pejorative and they have both been subject to segregation from society (Slevin & Sines, 1996; Peternelj-Taylor & Huft, 2006). Professionals have also shown these negative attitudes towards ID populations (McConkey & Truesdale, 2000). It is posited that these negative staff attitudes are influenced by both client and staff characteristics (Hastings, 1997a).

There is a high prevalence of challenging behaviour within both ID and offender populations, which is reported as a primary influencing client characteristic on attitude formation (Hastings, 1997a; Girgis, Huckstep, Oakley, Feriter & Nikalou, 2007). Numerous staff characteristics have been highlighted as influencing attitudes, including qualification, past experience, training, age and gender (Tervo & Paler, 2004; Dowey, Toogood, Hastings & Nash, 2007; Ouellette-Kuntz et al, 2003; Slevin & Sines, 1996; Hogue, 2003; Ireland & Clarkson, 2007).

ID offenders also appear to be subjected to similar negative staff attitudes (Reed, Russell, Xenitidis & Murphy, 2004). However, staff may also be overly tolerant of challenging behaviour within ID populations and be reluctant to report potential crimes (Hakeem & Fitzgerald, 2002). Overly positive or protective attitudes have been shown to significantly impact upon risk management, therapeutic provision and staff wellbeing (Reed et al, 2004; Grey, McClean & Barnes, 2002).

Method: 91 participants were recruited from three independent hospitals and assessed using a demographics questionnaire, the Challenging Behaviour Attributions Scale (CHABA) (Hastings, 1997b) and the Emotional Reactions to Challenging Behaviour Scale (ERCB) (Mitchell & Hastings, 1998).

Results: Results showed that staff working with ID offenders tended to hold numerous attributions for challenging behaviour and report both negative and positive attitudes towards challenging behaviour. Certain demographic factors (including age, gender, experience and training) were related to attributional style; however, they had low predictive value. Qualification and gender were related to the positivity of attitudes shown. The types of attributions this group of staff hold does appear to be related to the positivity of attitudes they report towards challenging behaviour.

Discussion: The present study provides an exploration into staff attitudes towards ID offenders. The results found have identified groups of staff that are particularly vulnerable to negative emotional attitudes, particularly women,

those with high qualifications and those with behavioural and medical attributions for challenging behaviour within ID offenders. The results provide mixed support for earlier research in ID and offender populations. These findings have particular implications for training packages and service provision structured around medical models. Staff working within ID offender services require further support to manage negative attitudes to avoid the potential impacts of such attitudes

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Statement of Contribution

Initially thanks go to Dr Lorraine Childs (Nottinghamshire Healthcare NHS Trust) who aided the author with the experimental design and from whom the trainee sought supervision throughout the study. The author independently carried out a literature review, found a suitable sample and applied for the relevant ethical approval. Recruitment of participants, scoring of questionnaires, data entry and analysis were conducted independently by the author. Thanks also go to Shirley Thomas (University of Nottingham) and Aidan Hart (University of Lincoln) for their support and supervision throughout the research.

**An investigation of Staff Attitudes towards Challenging Behaviour in
Intellectually Disabled Offenders: Exploring the influence of staff
characteristics and behavioural attributions.**

ABSTRACT

Background: There is little research on staff attitudes towards Intellectually Disabled (ID) offenders, particularly their attitudes towards challenging behaviour. Past research from ID and offender populations indicate that staff characteristics such as age, gender, experience, training and qualification may influence the attributions staff make about challenging behaviour. Additionally both staff characteristics and attributions may influence staffs' emotional reactions.

Method: 91 staff working with ID offenders completed questionnaires measuring staff demographic characteristics, attributional styles (Challenging Behaviour Attribution Scale, Hastings 1997b) and emotional reactions towards challenging behaviour (Mitchell & Hastings, 1998).

Results: A number of demographic factors correlated with attribution styles. Gender, qualification and attributional style were all correlated with the negativity of attitudes held. However, these alone cannot account for the total variance within staff attitudes.

Conclusions: A number of staff groups are vulnerable to negative emotional reactions and require support in working with challenging behaviour. There are also implications for training and service provision.

Keywords: Intellectual Disability, Challenging Behaviour, Staff, Attitudes, Attributions.

INTRODUCTION

Attitudes

Attitudes have been the focus of psychological research since the pioneering work of Allport (1935), examining both the composition of attitudes and the effect they have on human behaviour. An attitude can be defined as an “internal affective orientation” (Reber, 1995, p.67) or as a person’s affinity for a situation, person, group, object or other aspect of the environment (Bem, 1970). Attitudes may be considered as a hypothetical construct as they cannot be clearly observed (Ajzen, 2005). Within the present study attitudes are considered a multi-component structure, consisting of affective, cognitive and behavioural aspects, as proposed by Rosenberg and Hovland’s influential model (1960).

Attitudes have been reported as significantly impacting on people’s behaviour (Willner & Smith, 2008). Attribution theory has attempted to examine this relationship between attitudes and behaviour, whilst also expanding the multi-component view of attitude composition (Weiner, 1979; 1980; 1985; 1986). This theory proposes that as an observer our cognitive attributions about the causes of another person’s behaviour will influence our emotional attitudes towards that person and the likelihood of displaying helping behaviour.

Research has suggested that there are three dimensions to these cognitive attributions of behaviour, namely 'locus' (whether the cause is internal or external to the person), 'controllability' (the degree to which a person is deemed to have control over their behaviour) and 'stability' (whether the cause is enduring or stable) (Weiner, 1979; 1985). The theory posits that individuals who are perceived as having high levels of controllability over their behaviour provoke feelings of anger and reduced sympathy in observers, but also provoke optimism in observers about the possibility of change. Conversely low controllability provokes sympathetic feelings in observers but also promotes helplessness and depression (Seligman et al, 1979). Increased stability of the behaviour is related to reduced optimism, negative emotions and reduced helping behaviour by the observer (Willner & Smith, 2008). The theory has produced mixed results in predicting helping behaviour (Armitage & Conner, 2001; Notani, 1998), but nevertheless provides a useful framework for exploring attitudes.

See extended paper 1.1 for detailed discussion of attitudes, theory of attitude and their relation to behaviour.

Attitudinal Research in Healthcare Settings

In accordance with these theories, attitudes have been investigated within healthcare settings as a potential contributory factor to staff behaviour and service provision, with changes in staff behaviour being seen as the key for improving services (Grey, 2007). Staff attitudes have been investigated towards

a vast number of unique and difficult client groups, including individuals with psychosis (Yigit et al, 2003; Conning & Rowland, 1992); personality disorder (Deans & Meocevic, 2006); substance abuse (Richmond & Foster, 2003; McLaughlin & McKenna, 2000) and self-harm (McAllister et al, 2002).

One of these unique client groups is Intellectually Disabled (ID) offenders. Little research exists regarding attitudes towards ID offenders, but a considerable amount of research exists regarding attitudes towards people with ID and offender groups separately, therefore these will first be considered.

Attitudes to Intellectual Disabilities

There are more than a million people living in the United Kingdom who have an Intellectual Disability (ID) (Emerson et al, 2001). Historically reported attitudes towards ID populations have been pejorative, with calls for stigmatisation and segregation (Slevin & Sines, 1996). However, more recently there has been some degree of change in the attitudes reported, with more positivity conveyed (Ouellette-Kuntz et al, 2003) and government-led initiatives that highlight the need for social inclusion, resulting in the closure of many long-stay hospitals (Hogg, 2001).

(See extended paper 1.2; 1.3.1; 1.3.2; 1.3.3 for further details)

Despite research indicating a societal move towards more positive attitudes, concurrent research investigating staff attitudes indicted that professionals

working with ID populations continue to report more negative attitudes. This includes lack of confidence, inability to identify with ID individuals, and the need for segregation (McConkey & Truesdale, 2000; Slevin & Sines, 1996) (see extended paper 1.4 for details of these studies). However, alternative studies have found some degree of positivity reported by staff, (Slevin & Sines, 1996; Barr, 1990). Nevertheless, in both studies participants continued to express negative attitudes around issues of aggression and independence. This residual negativity was noted to be of significant concern (Slevin & Sines, 1996).

Hastings (1997a) asserts that from a theoretical (Attribution theory) and clinical stance, staff attitudes significantly impact upon the care of individuals with ID. They are one of the biggest contributors to the reinforcement or management of challenging behaviour within ID and therapeutic outcomes (Hastings & Remington, 1994; Hastings et al, 2003; Hastings, 1997a; Campbell & Hogg, 2008; Redhead et al, 2007). (See extended paper 1.5 for further discussion of the impact of attitudes.)

Influencing Factors

There has been much debate concerning why staff working with ID populations continue to report negative attitudes, whilst societal values move to a more positive position (McConkey & Truesdale, 2000). Hastings (1997a) commented that both client characteristics and staff characteristics are major influences on

the types of attitudes that staff hold. (See extended paper 1.6 for further discussion of challenging behaviour.)

Client Characteristics

One particularly important client characteristic within staff attitudes towards individuals with ID is the prevalence of challenging behaviour. Prevalence of challenging behaviour is high within ID populations and is often directed towards the carer of the person with ID, i.e. family members or staff (Bailey et al, 2006). Indeed, whilst nurses generally have higher than average risk of being assaulted at work (four times the national average), those nurses working with individuals with ID are particularly at risk (Budd, 1999). The Department of Health estimate that nurses within ID trusts are three times more likely to experience violence than nurses in acute or multiservice trusts (Badger & Mullan, 2004).

Despite this high prevalence of challenging behaviour, staff working with these behaviours tend to have limited understanding of the behaviour (Rangecroft et al, 1997), often holding only limited attributions to explain challenging behaviour (Grey et al, 2002). In accordance with attribution theory, the types of explanatory/causal attributions staff hold may lead to negative attitudes (Hastings, 1995; Bromley & Emerson, 1995; Weigel et al, 2006). (See extended paper 1.7 for further discussion.)

Staff Characteristics

When considering staff characteristics, a number of demographic factors have been identified in the literature as significantly influencing staff attitudes. Higher levels of qualification held by staff (Lillis & Wagner, 1977; Slevin, 1995; Gordon, 1999; Slevin & Sines, 1996 – see extended paper 1.8.1) and higher levels of further professional training have both been found to be associated with more positive attitudes (Berryman et al, 1994; Tierney et al, 2006; Dowey et al, 2007; Hastings, 1997b – see extended paper 1.8.2).

Additionally length of experience or contact time with an ID population was found to effect attitudes reported by staff, with increased contact linked with increased positive attitudes (Slevin & Sines, 1996; Dagnan et al, 1998; Slevin, 1995; Donaldson, 1980; Hastings et al, 1995; Hastings et al, 2003 – see extended paper 1.8.3). Age was also found to have a significant relationship with attitudes towards ID (Tervo & Paler, 2004; Wanless & Jahoda, 2002) (see extended paper 1.8.4) and several studies also identified gender differences, finding women to hold more positive attitudes, identifying more easily with individuals (Ouellette-Kuntz et al 2003; Hampton & Crystal, 1999; Gill et al, 2002 – see extended paper 1.8.5).

Offender Populations

Research also indicates that professionals' and societal attitudes towards forensic populations, in some way mirrors those negative attitudes levelled at people with ID. Specifically Peternelj-Taylor & Huft (2006) reported both staff

and society convey attitudes of stigmatisation and a need for segregation from society. As with ID populations, offender populations also show high prevalence rates of challenging behaviour (Girgis et al, 2007), which is unsurprising given the similarities between challenging and offending behaviour (see extended paper 1.9). This may influence staff attitudes particularly considering challenging behaviour results in staff injury, with greater frequency and seriousness than in other high risk settings (Zimmer & Cabelus, 2003).

Additionally those staff characteristics discussed earlier as influential within ID populations appear to influence attitudes towards offender populations. Women have demonstrated more positive attitudes towards offenders (Ireland, 1999; Ireland & Clarkson, 2007). Training has shown mixed results but seems to have a largely positive impact upon staff attitude (Hogue 1995). Again these attitudes have a significant impact upon the treatment and rehabilitation of the offender (Hogue, 2003; Young, Antonio & Winegeard, 2009).

For further discussion of the research on attitudes towards offender populations please see extended paper (1.10).

ID Offenders

ID offenders are individuals with an ID who have also committed a crime that have led them to enter the criminal justice system. There is a dearth of research regarding ID offenders due, in part, to the difficulties in identifying the population (see extended paper 1.11) and similarities between challenging and offending behaviour (see extended paper 1.9). Consequently, it is difficult to

confidently estimate prevalence of ID offenders, but there is a general consensus that individuals with ID are over-represented within the criminal justice system (Seaward & Rees, 2001; Cockram & Underwood, 2000, Cockram, 2005; Gudjonsson et al, 1993). More recently this deficit in research and knowledge of ID offenders has been identified and calls made for further research (e.g. Hayes, 2007 – see extended paper 1.12).

In consideration of the existing research there are huge disparities in the reported attitudes towards ID offenders. Reed et al (2004) suggests that ID offenders are subjected to similar societal and staff attitudes experienced by individuals with ID and offenders, being excluded from ordinary services (Vaughan et al, 2000), treated out of area (Vaughan, 1999; Kearns 2001) and facing delayed discharge (Watts et al, 2000). Furthermore ID offenders are likely to be further excluded within services (Reed et al, 2004), enter statutory care earlier (Alborz, 2003) and face significantly longer admissions (Holland et al, 2002). (See extended paper 1.13.)

In contrast to these attitudes, for individuals who display challenging behaviour (that could be classified as offending behaviour), but who do not have a forensic history, society and professionals show tolerant and protective attitudes (Seaward & Rees, 2001; Hakeem & Fitzgerald, 2002), with offending behaviour often not reported to the police or appropriate authorities (Lyall et al, 1995; Hakeem & Fitzgerald, 2002 - see extended paper 1.14). This shows an unwillingness of individuals to attribute responsibility and accountability to ID offenders and may reflect the negative stereotyping of attitudes held (Ouellette-

Kuntz et al, 2003) as ID offenders are not deemed to possess the required human traits to make judgements about their actions.

Impact of Attitudes

The impact of both protective and negative staff attitudes towards ID offenders is significant. Very tolerant attitudes and consequent under-reporting of offending behaviour, may lead to potentially aggressive, violent and threatening people with ID (i.e. offenders) being cared for with other potentially vulnerable ID clients (Hakeem & Fitzgerald, 2003). This could potentially lead to inappropriate risk management and exacerbate the burden of care for providers (Campbell & Hogg, 2002). (See extended paper, 1.15.1.)

An additional concern is how non-offender services may manage challenging (offending) behaviour, with research indicating that it is likely to be restrictive or extreme, including physical restraint or sedation (Hakeem & Fitzgerald, 2002; Anderson & Reeves, 1991; Reed et al, 2004). Such techniques have huge risks to both staff and clients, including injury and in extreme cases client death when these techniques are used inappropriately or unexpectedly (Patterson et al, 2003), which may be more likely if there is inadequate risk management (extended paper, 1.15.1). Conversely, negative attitudes appear to impact directly upon the service provision for ID offenders, with increased inpatient admissions (Reed et al, 2004). (See extended paper 1.15.2).

Furthermore, it has been proposed that understanding staff attitudes is the key to managing staff responses and consequently managing and deterring

challenging behaviour (Hastings, 1997b; Hastings & Brown, 2002; Grey et al, 2002). Staff responses have been identified as one of the primary long-term reinforcement of challenging behaviour and the key factor in the effectiveness of clinical interventions (Hastings & Remington, 1994; Grey et al, 2002 – see extended paper, 1.15.3).

Finally it has been proposed that negative attitudes can impact on staff themselves, having severe detrimental effects, with links to increased stress and burnout (Jones & Hastings, 2003). Therefore it is vital that these attitudes are identified in order to target additional staff support to particularly vulnerable staff groups – see extended paper (1.15.4).

Aims

The present study aimed to investigate the attitudes held by staff towards ID offenders and to investigate factors that may impact upon these attitudes (see extended paper 1.16 for further aims). Initially the types of attributions and attitudes staff hold towards ID offenders were explored, followed by a number of research questions:

Research Question 1

What is the relationship between the predictor variables (namely age, gender, qualification, training and experience) and the attributions made about challenging behaviour in ID offenders?

Research Question 2

What is the relationship between the predictor variables (namely age, gender, qualification, training and experience) and the positivity of attitudes about challenging behaviour in ID offenders?

Research Question 3

Can the predictor variables significantly predict the types of attributions made and the positivity of attitudes regarding challenging behaviour in ID offenders?

Research Question 4

What is the relationship between the causal attributions made and the positivity of attitudes towards ID offenders?

METHOD

Design

A within-subjects', cross-sectional design was used, with the outcome variable being participants' attitudes towards challenging behaviour in ID offenders. The primary measure of this was the Challenging Behaviour Attributions Scale (CHABA) (Hastings, 1997b) and the secondary measure the Emotional Reactions to Aggressive Challenging Behaviour Scale (ERCB) (Mitchell & Hastings, 1998). There were five predictor variables, namely age, gender, length of experience, training and level of qualification.

This study used a non-experimental design as many of the predictor variables could not be directly manipulated and were therefore not amenable to experimental design. Please see the extended paper (2.1) for further discussion of non-experimental design.

Participants

Ninety-one clinical staff (44 males and 47 females) participated in the study. Participants were recruited from three independent hospitals for people with ID, who display challenging behaviour and who have a forensic history (for details of the recruitment sites see extended paper, 2.2).

The mean age of participants was 38.86 years (SD = 11.22, range: 18-62 years). Twenty-five had professional qualifications or were in managerial positions, including qualified nurses, managers, psychologists and social workers. The remaining 66 participants included direct care staff and day-care/education workers. One participant did not record their occupation. Participants had a mean length of experience working with ID offenders of 70.19 months (SD = 56.46, range: 0-212 months), almost 6 years. Further participant details can be found in the extended paper (2.3).

Inclusion and Exclusion Criteria

All clinical staff working with ID offenders were eligible for inclusion within the study. Exclusion criterion included bank staff, those working in a solely administrative or clerical role or any staff unable to read and write in English (see extended paper, 2.4). It was hoped that by keeping the inclusion and

exclusion criterion broad and creating a heterogeneous sample, this would allow for more generalisability of the findings to a wider population. Whilst this meant that there may be some extraneous variables that needed consideration within the analysis, it allowed for some examination of the individual differences and their impact on attitude.

Response Rate

A total of 527 clinical staff were invited to take part in the study, of which 101 participants responded (19.17% response rate). Ten of these participants were excluded as they worked in a solely administrative/clerical role (1.9%), meaning that final response rate was 17.27%.

See extended paper (2.5) for further information.

Materials

The Challenging Behaviour Attributions Scale (CHABA)

The primary measure used was Hastings' CHABA (1997b), which was developed as a self-report measure to assess a range of staff attributions about the causes of challenging behaviours. For information on the CHABA and its development see extended paper (2.6.1 & 2.6.2).

The scale consists of 33 items with statements related to 5 causal models of challenging behaviour, namely *Learned Behaviour* (six items: three items each for learned negative and positive, which refer to negative and positive reinforcement processes respectively), *Biomedical* (six items relating to internal

physical states), *Emotional* (seven items relating to affect states), *Physical Environment* (eight items relating to aspects of the external environment) and *Stimulation* (six items relating to boredom/isolation).

Examples of items on the scale include “Because she/he is physically ill” (Biomedical), “Because she/he does not like bright lights” (Physical Environment), “Because she/he wants something” (Learned [positive]), “Because she/he is in a bad mood” (Emotional), and “Because she/he is bored” (Stimulation).

Participants were asked to rate how likely they thought the explanations were on a 5 point scale, ranging from (-2) “very unlikely”, (-1), “unlikely”, (0) “equally likely/unlikely”, (+1) “likely” to (+2) “very likely”. Individual sub-scale scores were found by summing the individual items within that subscale and dividing by the number of sub-scale items. Scores above zero indicated that the particular causal model was considered applicable to challenging behaviour. Scores below zero indicated that the causal model was rejected.

The CHABA’s subscales have been demonstrated to have good to moderate levels of reliability (Cronbach’s alpha levels of 0.65-0.87, Hastings, 1997b). The scale has been used in several studies investigating attributions about challenging behaviour made by staff working with ID individuals (Hastings & Brown, 2002; Hastings, 1997b, Tierney et al, 2006). The scale has also been shown to have good face and content validity (Kozub, 2002; Hastings 1997b).

However, authors have identified some limitations of the CHABA (Grey et al, 2002) (See extended paper, 2.6.3).

The Emotional Reactions to Challenging Behaviour Scale (ERCB)

The secondary measure used was the ERCB (Mitchell & Hastings, 1998), which was developed as a self-report measure to assess staffs' emotional attitudes towards challenging behaviour. The measure consists of 23 items, containing single words relating to a variety of emotional reactions, e.g. "Shocked", "Confident" and "Disgusted". These statements can be broadly grouped as depressive/angry emotions, fearful/anxious emotions and happy/confident emotions. Participants were asked to think about how they feel when faced with challenging behaviour and rate how often they felt each emotion on a four point scale, ranging from (0) "No, never", (1) "Yes, but infrequently", (2) "Yes, frequently", to (3) "Yes, very frequently". The measure has two subscales: feelings of depression/anger (10 items) and feelings of fear/anxiety (5 items). These subscales can be summed to provide a total "Negative Attitude" score. The remaining 8 items relate to feelings of confidence and happiness.

Mitchell and Hastings (1998) found that the measure had high internal consistency for both subscales (depression/anger: $\alpha = 0.85$; fear/anxiety: $\alpha = 0.82$) and a good level of test/re-test reliability (depression/anger: $r = 0.74$; fear/anxiety: $r = 0.81$). The correlation between both subscales was investigated and indicated that they did measure different dimensions of negative emotional reactions, although there is some moderate level of

relationship between the dimensions (Mitchell & Hastings, 1998). The measure was deemed to have excellent face and construct validity and was recommended for use in a number of clinical and research applications. The scale has been shown to be reliable in several studies of staff working with ID (Mitchell & Hastings, 2001; Hastings & Brown, 2002; Jones & Hastings, 2003). See extended paper 2.7 for further details.

For justification of the use of these measures above other similar instruments see extended paper (2.8).

Additional Measures

In addition to the above mentioned measures, a demographics questionnaire was used. This was designed by the Chief Investigator to gather information about the predictor variables, age, gender, qualification, training and experience. See extended paper 2.9 for further details.

No further measures were used although consideration was given to using a social desirability questionnaire to assess participants' attempts to mediate their responses. After careful consideration use of such a measure was rejected due to poor reliability of such scales (Johnson & Fendrich, 2002). See extended paper 2.10.

Ethical Considerations

This study was not anticipated to raise significant ethical considerations for participants (see extended paper 2.11.1). An application was made to the Local

NHS Research Ethics Committee (NRES) on 29th December 2008. Following minor amendments, final approval was received on 8th April 2009 (see extended paper for details, 2.11.2). Following this an application was made to the University of Lincoln's Psychology Faculty Research and Ethics Committee on 24th April 2009, final approval was received on 17th June 2009 (see extended paper for details, 2.11.3). Copies of Ethical approval letters can be found in appendices two and three.

Procedure

Following ethical approval, a consultant clinical psychologist at each site verbally outlined the research to staff and explained that the Chief Investigator would be distributing further information in the near future. Additionally the Chief Investigator attended meetings on each site to verbally outline the nature of the study.

The Chief Investigator then distributed participant envelopes to all staff working at the sites via the internal postal system. Envelopes contained the written participant information sheet, the CHABA, the ERCB, the demographics questionnaire and a return envelope addressed to the Chief Investigator.

Participants were asked to firstly read the written information sheet. The Chief Investigator's contact details were contained on the written information sheet and participants were encouraged to contact them should they have any queries about the research or their participation. The Chief Investigator was present on site on the day of distribution and visited each site during the

recruitment period. Participants were encouraged to approach her if they had any queries. Participants were not asked to complete written consent forms (on request of the ethics committee) as it was deemed that completion of the questionnaires was in itself consent and in order to maintain anonymity.

Participants deciding to take part were instructed to return their completed questionnaires in the enclosed addressed envelope to a sealed postal box positioned in their place of work. All questionnaires received by the Chief Investigator within 2 months of being handed out to participants were entered into SPSS (version 14.0) for analysis (see below).. The Chief Investigator did not access any other information (such as health records or personal data) about the participants. All returned questionnaires are stored in secure cabinets at the University of Lincoln for the next 7 years. A flowchart detailing the procedure can be found in the extended paper (2.12).

Data Analysis

Initially descriptive statistics were produced for the CHABA and ERCB in order to investigate the types of attitudes shown towards challenging behaviour in ID offenders. Prior to conducting the main statistical analyses, the variables were tested for their suitability for parametric testing (see extended paper 2.13). A number of the variables did not meet the criteria and therefore non-parametric Spearman Rho correlations were conducted to explore research questions 1, 2 and 4. All analyses used listwise deletion for missing data (see extended paper for details, 2.14).

As gender is conceptualised as a dichotomous variable within this study the correlation scores with gender as a variable were converted into point biserial correlations (see extended paper, 2.15). Given the amount of comparisons entered into the correlation matrix a Bonferroni correction was considered to reduce the chance of making a Type I error. However, the use of these adjustments have been questioned as being too conservative, unacceptably increasing the chance of making a Type II error and reducing the power of the test (Nagakawa, 2004; Moss 2009; Moran, 2003). Therefore such an adjustment was not made (extended paper 2.16).

In order to explore research questions 3 and 4 a forced entry regression was employed (see extended paper 2.17). Although the data was not normally distributed, it did meet all the assumptions for regression including multicollinearity (see extended paper 2.18).

RESULTS

Descriptive Statistics

Participants accepted a mean of 4.22 (SD = 1.07, range = 2-5) attributions, out of a possible 5, as explanations for challenging behaviour. The most likely to be accepted were Emotional attributes (100% of participants) and Learned Behaviour attributes (97.75% of participants). The mean scores and standard deviations for the CHABA and ERCB can be found in tables 1 and 2 below. See extended paper 3.1 for further descriptive statistics regarding the CHABA.

Table 1: Mean scores and standard deviation for CHABA subscales

	Mean	Standard Deviation	Range
Learned Behaviour	1.03	0.53	-0.33 – 2.00
Learned Behaviour Positive	1.31	0.59	-0.33 – 2.00
Learned Behaviour Negative	0.76	0.66	-0.67 – 2.00
Biomedical	0.42	0.68	-1.67 – 2.00
Emotional	1.28	0.45	0.14 – 2.00
Physical Environment	0.33	0.72	-1.25 – 1.88
Stimulation	0.53	0.65	-1.17 – 2.00

Table 2: Mean, standard deviation and range of scores for ERCB subscales

	Mean	Standard Deviation	Range
ERCB Negative ^a	12.75	5.74	0 – 26
Depression/Anger ^b	8.07	3.94	0 – 12
Fear/Anxiety ^c	4.72	2.49	0 – 12
ERCB Positive ^d	9.69	4.99	1 – 21

^a Minimum scale score = 0, maximum score = 45

^b Minimum scale score = 0, maximum score = 30

^c Minimum scale score = 0, maximum score = 15

^d Minimum scale score = 0, maximum score = 24

Research Questions 1 & 2: Correlational Analysis

A Spearman's Rho correlational analysis was conducted to assess the relationship between the five predictor variables and both causal attributions

made (CHABA scores) and emotional attitudes (ERCB). Table 3 below presents the correlation matrix between each of the predictor variables and the dependent variables.

Table 3: Intercorrelations (Spearman's Rho) of predictor variables and dependent variables

	Age	Gender	Qualification	Experience	Training
Learned Behaviour	0.158	-0.003	-0.016	0.150	0.190*
Learned Behaviour Positive	0.092	0.000	-0.090	0.047	0.002
Learned Behaviour Negative	0.208*	0.013	0.024	0.215*	0.285**
Biomedical	0.109	0.232*	0.172	0.141	0.178
Emotional	-0.024	0.153	0.034	0.109	0.173
Physical Environment	-0.018	0.130	0.075	0.142	0.172
Stimulation	0.138	0.198*	-0.037	0.242*	0.144
ERCB Negative	0.052	0.170*	0.096	0.111	-0.097
Depressed/Angry	0.086	0.173*	0.017	0.105	-0.085
Fear/Anxiety	-0.015	0.152*	0.216*	0.042	-0.116
ERCB Positive	0.74	-0.117	-0.078	0.099	0.114

ERCB = Emotional Reactions to Challenging Behaviour Scale

* p<0.05 (one-tailed)

** p<0.01 (one-tailed)

Research Question 1: CHABA correlations

There was a significant positive correlation between participants' age and their Learned Behaviour Negative Scores ($r = .208, p < .05$). Experience was significantly positively correlated with Learned Behaviour Negative Scores ($r = .215, p < .05$), and Stimulation Scores ($r = .242, p < .05$). Training was significantly positively correlated with Learned Behaviour Scores ($r = .188, p < .05$) and Learned Behaviour Negative Scores ($r = .284, p < .05$).

The gender of participants was significantly positively correlated to Biomedical scores ($r_{pb} = .291, p < .05$) and Stimulation scores ($r_{pb} = .247, p < .05$).

Research Question 2: ERCB correlations

Only one significant correlation was found for ERCB scores, between training and the Fear/Anxiety subscale of the ERCB ($r = .216, p < .05$).

Research Question 3: Regression Analysis

Those predictor variables that were significantly correlated with a dependent variable were then entered into a regression. The results of these analyses are summarised in table 4 below:

Table 4: Regression Results for significantly correlated variables

	<i>B</i>	<i>SE B</i>	β
Learned Behaviour			
Constant	0.811	0.156	
Training	0.077	0.051	0.162
Learned Behaviour Negative			
Constant	-0.053	0.294	
Age	0.010	0.007	0.166
Experience	0.000	0.001	0.018
Training	0.143	0.069	0.234*
Biomedical			
Constant	-0.092	0.220	
Gender	0.340	0.137	0.258*
Stimulation			
Constant	-0.055	0.228	
Gender	0.281	0.133	0.220*
Experience	0.002	0.001	0.212*
ERCB: Fear/Anxiety			
Constant	3.819	0.630	
Qualification	0.304	0.194	0.166

* $p < 0.05$

Only the regression models for Learned Behaviour Negative ($R = .325$, $F = 3.232$, $p < .05$); Biomedical ($R = .258$, $F = 6.131$, $p < .05$); and Stimulation ($R = .308$, $F = 4.364$, $p < .05$) were significant (see extended paper 3.2 for further details of all regression models).

Research Question 4: Correlational Analysis: CHABA and ERCB

A further Spearman's Rho correlation was conducted to examine the relationship between the types of attributions made (CHABA scores) and the positivity of attitudes (ERCB scores). The results of these correlations can be found on table 5 below. A number of attributions were significantly positively correlated with ERCB negative emotion scores, namely Learned Behaviour ($r = .2$, $p < 0.05$), Biomedical ($r = .273$, $p < .01$) and Physical Environment ($r = .235$, $p < .05$).

Regarding the subscales of the ERCB negative emotions, Depression/Anger is positively correlated with Learned Behaviour ($r = .192, p < .05$), and Biomedical ($r = .227, p < .05$); whilst Fear/Anxiety is positively correlated with Biomedical ($r = .252, p < .01$) and Physical Environment ($r = .268, p < .01$). No attributions were significantly correlated with positive emotions on the ERCB.

Additionally there was a significant positive correlation between the number of attributions accepted (on the CHABA) and the negative emotions show ($r = .205, p < .05$); and a significant negative correlation with positive emotions shown ($r = -.204, p < .05$).

Table 5: Intercorrelations (Spearman's Rho) of CHABA and ERCB score

	ERCB Negative	Depressed/ Angry	Fear/ Anxiety	ERCB Positive
Learned Behaviour	0.200*	0.192*	0.138	-0.080
Learned Behaviour Positive	0.141	0.157	0.075	-0.050
Learned Behaviour Negative	0.204*	0.173	0.172	-0.075
Biomedical	0.273**	0.227*	0.252**	-0.110
Emotional	0.076	0.110	-0.037	-0.007
Physical Environment	0.235*	0.148	0.268**	-0.169
Stimulation	0.068	0.091	-0.031	0.024
Number of Attributions accepted	0.205*	0.183*	0.153	-0.204*

ERCB = Emotional Reactions to Challenging Behaviour Scale

* $p < 0.05$ (one-tailed)

** $p < 0.01$

All correlations used listwise deletion for missing data (see extended paper 2.14 for further details)

Research Question 4: Regression analysis

Further regression models were conducted to explore the relationship between the ERCB negative scores and those CHABA scores significantly correlated to it. The results of these analyses are summarised in table 6 below:

Table 6: Regression Results for significantly correlated variables

	<i>B</i>	<i>SE B</i>	β
ERCB Negative			
Constant	10.656	1.375	
Learned Behaviour	1.300	1.375	0.119
Biomedical	2.059	1.344	0.236
Physical Environment	-0.304	1.207	-0.37
ERCB: Depressed/Anger			
Constant	6.752	0.938	
Learned Behaviour	0.930	0.931	0.125
Biomedical	0.892	0.746	0.150
ERCB: Fear/Anxiety			
Constant	4.284	0.310	
Biomedical	0.880	0.550	0.232
Physical Environment	0.213	0.507	0.061

Only the ERCB Fear/Anxiety regression model was significant ($R = .277$, $F = 3.540$, $p < .05$) (see extended paper 3.3).

Post-Hoc Analyses

A number of post-hoc analyses were conducted in order to help explain the above findings. There were no significant correlations between the number of attributions held with training and experience. There was a significant correlation for age with experience ($r = .46$, $p < .01$) and training ($r = .23$, $p < .05$). (See extended paper, 3.4 for full details).

DISCUSSION

The results of this study are briefly summarised in respect of the research questions presented above.

Exploratory Analyses

In contradiction to previous research (such as Grey et al, 2002), the present study found that participants were willing to accept numerous attributions for challenging behaviour (a mean of 4.22 attributions out of a possible 5). Explanations for this may include the level of training of the staff (89% had received at least some training), which may increase attributions held. This could be further investigated using a more detailed measure of staff training. See extended paper 4.1.

Participants were most likely to make Emotional attributions (100% of participants), followed by Learned Behaviour (97.75% of participants). The least likely attributions to be accepted were Biomedical (75% of participants) and Physical Environment (65.91%). This is consistent with previous research (Grey et al, 2002) in that learned behaviour and emotional attributions are the most commonly held beliefs about the causes of challenging behaviour (see extended paper 4.1)

The ERCB scores demonstrate that whilst participants do display some negative emotional reactions to challenging behaviour in ID offenders, they also display some positive emotional reactions (18% negative and 14% positive).

This reflects the disparity shown in the literature discussed earlier. See extended paper 4.2.

Research Question 1

Research question one predicted that the demographic predictor variables (age, gender, qualification, experience and training) would be significantly correlated with the types of attributions made. Several of the correlations were significant. Age, experience and training was significantly correlated with Learned Behaviour Negative attributions, which is consistent with previous research that found that older, more experienced staff with higher levels of training are more likely to move away from emotional attributions and towards behavioural explanations, particularly as training emphasises such attributions (Hastings et al, 1995; Dowey et al, 2007).

Experience correlated significantly with Stimulation attributions, which may indicate that more experienced staff perceive the environment to be under-resourced and under-stimulatory, which has been noted by Department of Health (2001). If this perception is true then consideration needs to be given to the therapeutic environment of ID offender services (see extended paper 4.3.1). Additionally women held more attributions of Stimulation and Biomedical, which could be deemed as more empathic attributions as they do not place control (and therefore blame) within the individual, consistent with past research (Ouellette-Kuntz et al, 2003) (see extended paper 4.3.2).

Research Question 2

Hypothesis two proposed that predictor variables would correlate significantly with the positivity of attitudes reported. In contrast to previous research (see extended paper 1.8 and 1.10), the majority of predictor variables were not shown to correlate with positivity of attitudes. However, gender was significantly positively correlated with the ERCB (both depression/anger and fear/anxiety). Therefore women were more likely to show negative attitudes towards challenging behaviour than men. This finding is not consistent with past research (Ouellette-Kuntz, 2003) and is somewhat surprising given that women are more likely to make empathic attributions. Possible explanations may include different past experience between genders and socially-constructed gendered roles, which could be investigated through further qualitative study (see extended paper 4.4.1).

Additionally qualification was shown to positively correlate with the fear/anxiety subscale of the ERCB, meaning as level of qualification increased the fear and anxiety experienced also increased. This is not consistent with previous research (Slevin & Sines, 1996; Gordon, 1999) which predicted an opposite relationship. It is possible that as qualification increases so does responsibility, whilst contact with challenging behaviour reduces, possibly reducing confidence coping with such behaviour (extended paper 4.4.2). These findings highlight potentially vulnerable groups of staff, who may be subject to the long-term difficulties associated with negative attitudes (Snow et al, 2007; Long et al, 2008) and may need support in coping with challenging behaviour.

For discussion of non-significant correlations see the extended paper (4.4.3).

Research Question 3

Research question three investigated the predictive value of those predictor variables found to be significant in questions one and two. Four regression models were conducted, of which only two showed significant predictive value. Within the Stimulation regression model, the combination of experience and gender accounted for 9% (7% when standardised) of the variance in participants' attributional scores. Within the Biomedical regression model, gender accounted for 7% (6% when standardised) of the variance in participants' attributional scores. Therefore considerable variance is still unaccounted for and it would be important for future research to investigate other factors that account for such variance. Possible variables to consider include job requirements, such as responsibility and contact time (identified by Lambrechts & Mae, 2009) and past occupational experience.

See extended paper 4.5 for further discussion of the regression models.

Research Question 4

Research Question four proposed that causal attributions for challenging behaviour are significantly related to negative emotional attitudes can be partially retained.

The learned behaviour causal attribution was significantly positively correlated with negative emotional reactions (both overall and for the depression/anger

subscale), meaning that participants attributing challenging behaviour to learned behaviour were more likely to feel angry, depressed and anxious. This is consistent with attribution theory as increased control is linked to feelings of anger (see extended paper 4.6.1). This has implications for staff training packages that often seek to increase staff's ability to make Learned Behaviour causal attributions (Totsika et al, 2008; Berryman et al, 1994; Dowey et al, 2007) and consideration needs to be given to staff factors within training packages.

Biomedical attributions were positively correlated with negative emotions (both depression/anger and fear/anxiety). Consistent with the idea of learned helplessness (Seligman et al, 1979) such Biomedical explanations may be deemed as stable and outside of individual's control, therefore resulting in feelings of depression (see extended paper 4.6.2). Additionally, Physical Environment attributions were positively correlated with the fear/anxiety emotional reactions. Such attributions may lead to staff feeling unable to change the situation and consequently developing depressive symptoms associated with learned helplessness (Abramson et al, 1978). See extended paper 4.6.3 for further discussion.

When entered into a regression model neither of these models were significant. Therefore other variables must account for variance within emotions reported by staff. The literature suggests a number of additional factors that could be considered including typologies and actual levels of exposure to of challenging behaviour, staffs' self-efficacy (Hastings & Brown, 2002), and occupational

motivation (Amabile et al, 1994). These factors could be considered using a similar methodology but with the addition of measures of these factors. Additionally it would be interesting to investigate further hypotheses using an inductive method such as grounded theory. See extended paper 4.7 for further details.

Additional Considerations

An additional correlation was conducted to examine if the number of causal attributions staff hold to explain challenging behaviour is related to the emotional reactions they report. A significant relationship was found with the more causal attributions accepted by staff correlated with more negative emotions and fewer positive emotions dealing with challenging behaviour. One explanation for this is that holding numerous attributions may make it difficult to predict challenging behaviour, therefore reducing staffs' feelings of controllability. This has implications for staff training which often seeks to increase staff's causal attributions (Campbell & Hogg, 2008). See extended paper 4.8.

Limitations

The present study has a number of limitations, firstly, the self-selected sample and correlational design may impact upon the generalisability of the present findings, as those staff motivated to complete the questionnaires may not have been representative of the entire population. Additionally one of the sites underwent service-level restructuring during the course of recruitment. This could not be measured within the remit of the present study but it is possible

that this may have impacted upon staff's attitudes and therefore results may not be generalisable to other ID offender services. See extended paper 4.9.1.

Additionally the sample was taken from independent hospitals, which makes it difficult to directly compare with other research conducted largely within NHS or government-run sites. However, the present study provides an interesting exploration into the study of non-NHS sites and will provide a source of comparison for future research. See extended paper 4.9.1.

Secondly, a significant limitation was the lack of definition of challenging behaviour given to participants. Given the complexities in defining challenging behaviour, it is possible that each participant held a different description of challenging behaviour or may not have understood what was meant by the term at all. The type of behaviour being discussed can have significant influence on attitudes towards it (Hastings & Brown, 2002; Stanley & Standen, 2000). This would need to be overcome in any future research by providing staff with a definition of challenging behaviour. It may also be interesting to compare their attitudes and attributions towards different types of behaviour. See extended paper 4.9.2.

Lastly, the measures used (CHABA and ERCB) had limitations in their application to the present study. The ERCB does not have cut off points, therefore it is impossible to make a judgement on what is a concerning level of negative (or positive) attitude (see extended paper 4.9.3). Additionally the CHABA is limited as it does not explicitly state where attributions lie on which

dimension, i.e. are they stable, controllable, etc, and this has to be inferred. This would be an interesting piece of further development. Furthermore the demographics questionnaire was long, therefore potentially daunting, and not all of the information gathered was utilised in the present study, therefore this would need revising prior to further investigation.

Implications

Notwithstanding these limitations, the present study had provided one of the first in-depth explorations of staff attributions and attitudes towards working with ID offenders, a population that has been noted has been significantly overlooked in past research. Therefore it is hoped that this study has contributed to the pool of knowledge about this unique population. Additionally the research has a number of theoretical and clinical implications

Theoretical Implications

The present study provides some support for Attribution theory (Weiner, 1979; 1981, Seligman et al, 1979) but has identified that this alone is not sufficient to fully explain staff attitudes. Therefore a more complex model may need to be employed to fully understand attitudes towards ID offenders, such as Theory of Planned Behaviour (Ajzen, 1988; 1991).

Additionally, the present research may have implications for how attitudes are measured. The relatively low response rate and lack of normally distributed data, indicates that responses may be skewed for social desirability. Although this was considered prior to conducting the research, it would be important to

fully address this in any further research. It would also be interesting to conduct a measure of implicit attitudes (e.g. IAT: Greenwald, McGhee and Schwartz, 1988; I-RAP: Barnes-Holmes et al, 2008) and to compare the differences between explicitly reported and implicitly measured attitudes.

Clinical Implications

The research has identified several groups of staff, i.e. women and those with increased experience who may be more vulnerable to negative emotions. Therefore these groups may need support to manage these emotions, given the potential long-term impacts (Mitchell & Hastings, 2001; Hastings & Brown, 2002). This is a particularly important finding as this may be counter-intuitive and these groups may be assumed to hold much more positive attitudes.

Furthermore, negative emotional attitudes are significantly linked to holding more causal attributional models to explain challenging behaviour and particularly Learned Behaviour attributions. The majority of current training focuses upon enabling staff to increase their attributional models and have a particular emphasis on Learned Behaviour models (Dowey et al, 2007). Therefore considerable thought needs to be given to the applicability and appropriateness of some staff training packages.

See extended paper 4.10 for further discussion of implications.

Further study

The present study provides a starting point to understanding such attitudes and replication of the study (addressing the aforementioned limitations) would be beneficial for generalisability of the findings and to investigate additional influencing variables. Furthermore it would be interesting to explore whether these attitudes actually impact upon staff behaviour as is theoretically suggested (Weiner, 1979; 1980; Ajzen, 1991). Additionally it would be interesting to investigate how attitudes at work may influence staff outside of employment as occupation is central to sense of identity and self-worth (Bandura, 1997). See extended paper 4.11 for further discussion.

Conclusion

Overall, the present study provides a good exploratory analysis of staff attitudes towards learning disabled offenders. It can be used to support some previous research in other similar areas, whilst also prompting questions about results that are not consistent with that evidence. The study also provides some interesting questions, which could be addressed by further research.

For a critical reflection on the current study, please see extended paper 4.12.

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Extended Paper

EXTENDED INTRODUCTION

1.1 Attitude Research

1.1.1 What are attitudes?

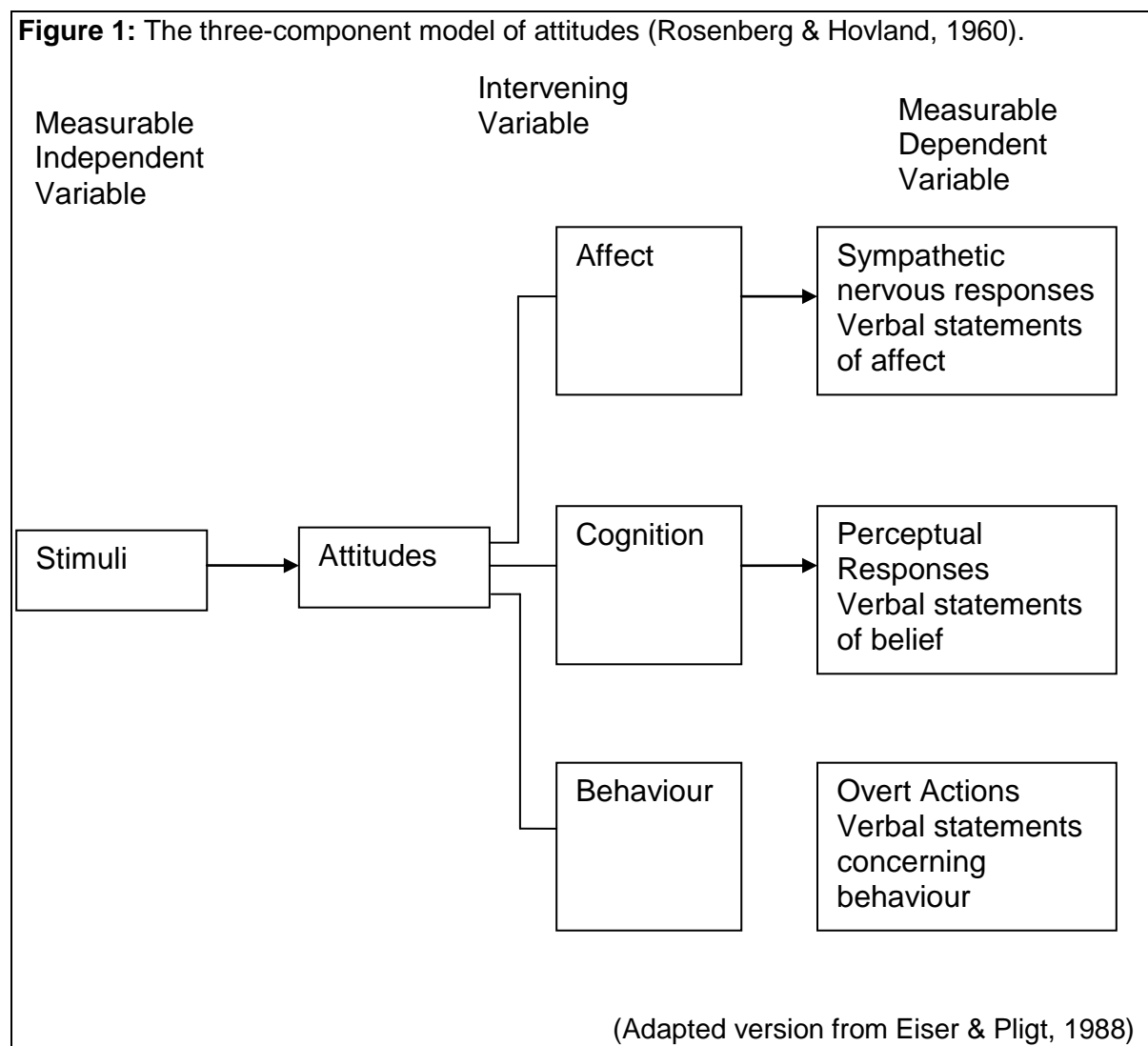
As discussed in the journal article, attitudes provide a quick and efficient evaluation of a given entity (Dovidio, Kawakami & Beach, 2002). According to Triandis (1971), attitudes are useful as they enable individuals to understand the world by organising complex information and they make it possible to avoid “unpleasant truths about the self”, thereby protecting self-esteem, enabling reactions to the world to maximise rewards and enabling the expression of basic values (Triandis, 1971, pp. 4). Whilst attitudes may be considered a hypothetical construct as they have no clear measurable structure, it is proposed by some authors that they can be studied through the measurement of peoples’ observable responses to their attitudes (Ajzen, 2005).

A wealth of research exists on how attitudes may form, which is not possible to fully consider within the present study. However, in summary, there is evidence from twin studies (Tesser & Martin, 1996) that indicate genetic factors may in some way influence attitude formation. Furthermore, attitudes may also be acquired through exposure (Zajonc, 1968; Bornstein, 1989), conditioning, reinforcement and observation or social learning (Bohner & Wanke, 2002).

1.1.2 Theories of attitudes

Multi-component Theories

Attitudes are most commonly seen as the culmination of cognitive, affective, evaluative and conative (behavioural) components (Reber, 1995). However, it is the cognitive and affective components that have been deemed the most important in the construct of attitudes (Eagly & Chaiken, 1995; Anderson, 1983; Fazio, 1986). Rosenberg and Hovland (1960) proposed one of the first and most influential models to conceptualise this multi-component view of attitudes. This model can be seen in Figure 1 below.



The model's first stage highlights the role of stimuli that triggers an attitude. These stimuli can be an object, person, event, etc. The next stage of the model is the attitude itself which is said to consist of three components, firstly affect (feelings, evaluations and emotions), cognition (beliefs and attributions) and behaviour (intentions and decisions about actions). Each of these three components then has an associated response. The three components are said to be highly interrelated (Triandis, 1971). The model also indicates areas that can be measured for attitudinal study.

The affect component relates to the feelings that an individual has about an attitude object. The model proposes these can be measured by direct verbal statements of admiration or disgust or through non-verbal means such as facial expression, galvanic skin response, pupil constriction/dilation and heart rate (Ajzen, 1989). A limitation with the measurement of such non-verbal responses is that it is difficult to make assumptions with any certainty about which reaction corresponds to a negative or positive attitude.

Within the model, the cognitive component includes the perceptions of and information about the beliefs object. This is said to be measurable through verbal statements of attributions and non-verbal perceptual responses, i.e. the person will have a lower threshold for negative stimuli associated with the attitude object if they hold negative attitudes and vice versa. However, these non-verbal perceptual measurements are difficult to measure (Ajzen, 1989) and this is a further limitation of the model.

The conative component consists of behavioural inclinations, intentions, commitments and actions regarding the attitude object (Ajzen, 1989). These are measured through verbal statements about the individuals planned behaviour and through measurement of actual overt behaviour. Whilst this is obviously a much more reliable form of assessment, it does not take into account the other factors that may be influencing a person's actual behaviour. It is difficult to ascertain if attitudes (or more specifically self-reported measurements of attitudes) actually predict overt behaviour (Eiser & Pligt, 1988). Dissonant research exists on the link between attitude and behaviour, with views ranging from purporting a very strong link to completely refuting any such causal relationship (Triandis, 1971), discussed below. Whilst this model provides a useful way of conceptualising attitudes, the multi-component model tells us very little about the relationship between these components.

Attribution Theory

One theory that has expanded this multi-component model of attitudes is Attribution Theory, first conceptualised by Heider (1944) and later developed by authors such as Weiner (1979, 1980). This theory explores the relationship between these components and their influence on behaviour. There is no single theory of attribution, rather a number of different perspectives (Kelley & Michela, 1980). One of the most popular theories of Attribution was proposed by Weiner (1979; 1980), which posits that when people witness an event they are motivated to make attributions about responsibility and the cause of the

event, helping them to understand the situation. In essence an attribution is a cognitive causal explanation for an event (Martinko, 1995)

As discussed in the journal article, these attributions lie along three dimensions of locus, stability and control. The types of attributions made is theorised to then impact upon the emotional attitudes and behaviour of an individual. Weiner's (1979; 1980) hypotheses regarding these relationships can be seen in Table 7 below. The locus dimension is not included in this table as its influence is said to be dependent upon the other dimensions.

Table 7: Weiner's Attribution Theory: The influence of attributions on observers.

Dimension of Attribution		Influence of Attribution
Controllability	High	Anger Lowered Sympathy Increased Optimism about ability to change
	Low	Increased Sympathy Desire to Help Feelings of Learned Helplessness
Stability	High	Lowered Optimism Negative Emotions Reduction in Helping Behaviour
	Low	Increased Optimism Positive Emotions Increased Helping Behaviour

The controllability dimension is proposed to be one of the most significant influences on behaviour both directly and indirectly through mediating affective variables (Bailey, Hare, Hatton & Limb, 2006). As seen in the table, Weiner proposed that if an observer perceives the individual to have low controllability over their behaviour they will experience increased sympathy and a desire to help the individual. However, it was also hypothesised that such low controllability can lead to feelings of learned helplessness (or expectancy of failure), which can lead to negative emotions, including frustration and depression (Abramson, Seligman & Teasdale, 1978). For individuals with depression, attributions about negative outcomes are more likely to be internal, global and stable; whilst positive outcomes are external, specific and unstable (Seligman, Abramson, Semmel & von Baeyer, 1979).

Although Attribution Theory provides a useful model for understanding attitudes and consequent behaviour, several criticisms have been levelled at the model, firstly being the very definition of the term attribution. Authors have questioned whether attributions are in fact a person's attempt to give a causal explanation (of behaviour) or whether they make a dispositional inference (about traits of a person) from a behaviour (Hamilton, 1998; Hilton, Smith & Kin, 1995; Malle, 2004). Whilst such explanations and trait inferences may be related it is argued that they are conceptually distinct and that Attribution Theory does not adequately account for this distinction (Malle, 2003). Malle (2003) also comments that there has been little empirical support for the internal/external locus dimension and there is a lack of attention given to social context and

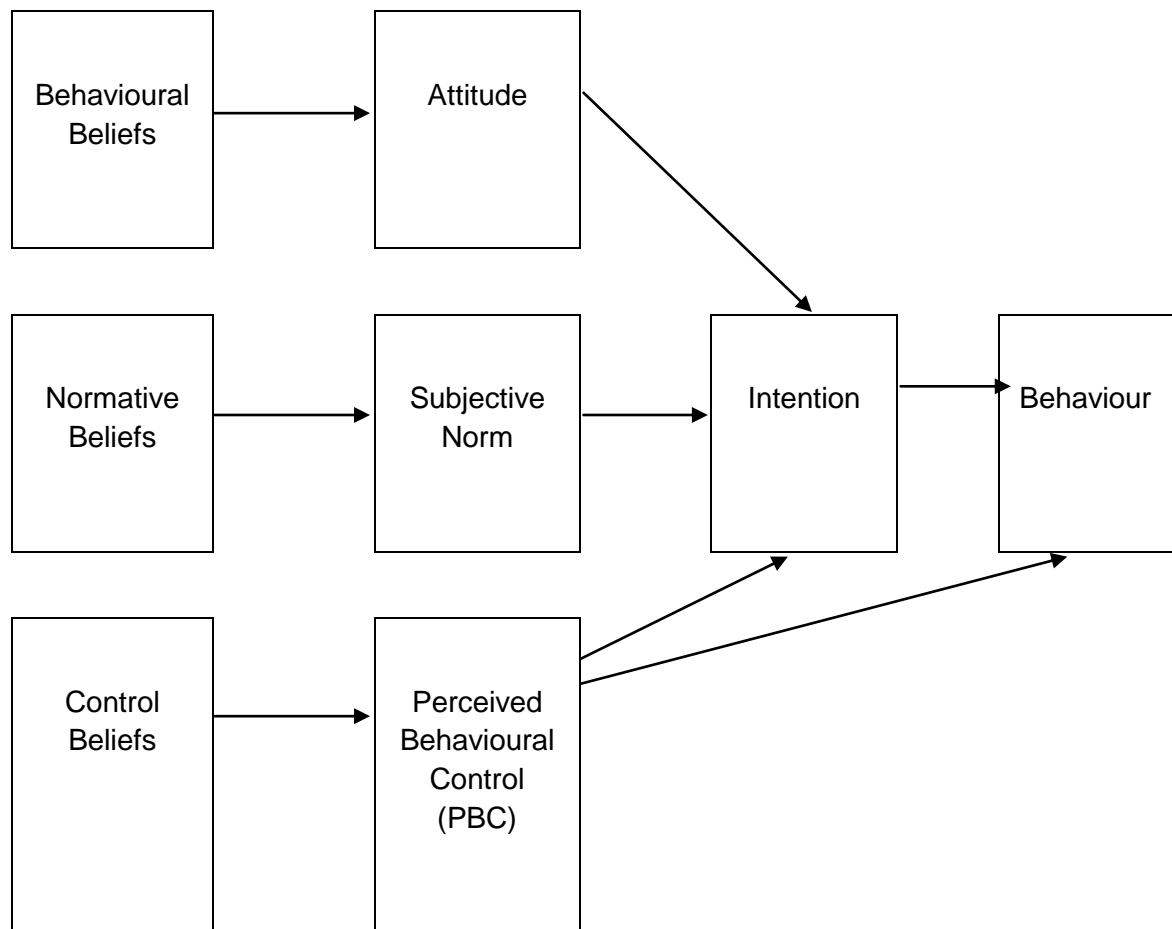
culture in which a behaviour occurs (Hinton, 1993). From an epistemological position, authors have additionally questioned the theory's realist view of such structures (Potter & Edwards, 2006).

Finally, a major criticism of Attribution Theory is that alone it often fails to account for a person's actual behaviour. There are various estimates about the actual proportion of behavioural variance accounted for by attitudes; with attitude-behaviour correlations from meta-analyses, analysing disparate behavioural domains, ranging from 0.45 to 0.62 (Armitage & Conner, 2001; Notani, 1998). The additional variance within these studies is proposed to be accounted for by additional factors such as perceptions of control, self-efficacy, intention/desire, self-prediction and context dependent factors (please see below). However, despite these limitations it does provide a useful framework for conceptualising attitudes.

Theories of Planned Behaviour

Given the relative limitations of Attribution Theory, attempts have been made to explain the difficult and controversial relationship between attitudes and behaviour. Ajzen (1988; 1991) proposed the Theory of Reasoned Action and the extended model of Theory of Planned Behaviour as a way of conceptualising the relationship between attitudes and behaviour. This model can be seen in figure 2 below.

Figure 2: Theory of Planned Behaviour (Ajzen, 1991).



Ajzen's model incorporated not only attitudes but also contextual components such as the normative beliefs of the environment the person is in, including beliefs about others' perception of the behaviour and expected consequences of that behaviour (Eiser & Pligt, 1988). Additionally the concept of Perceived Behavioural Control (PBC) was incorporated. Ajzen (1991) described this as the amount of control that a person believes they have over their own behaviour. The idea of PBC is said to be interchangeable with self-efficacy concepts (Ajzen, 1991; Malle, 2003), whereby self-efficacy relates to specific cognitive perceptions of control based upon individual factors whilst PBC is a more general feeling of control based upon extraneous factors.

Using this type of model has allowed for much more successful prediction of behaviour from expressed attitudes (Eiser & Pligt, 1988). However, Armitage and Conner (1999) still reported a significant percentage of variance in behaviour that is unaccounted for by this model.

1.1.3 Measuring Attitudes

There are some fundamental difficulties with the study of attitudes, particularly as they cannot be directly observed and it is their behavioural response (e.g. the behaviour towards a person/object or responses on a self-report questionnaire) that is usually studied. Researchers have also questioned why at times people's behaviour is often at odds with their reported attitudes (LaPiere, 1934). As discussed above, the relationship between attitudes and behaviour may not be a simple linear relationship and involves numerous variables. However regarding attitudes themselves, Bohner and Wanke (2002) have maintained that provided there is a valid correlation between the attitude and behaviour measurement (i.e. that the questionnaire is reliable and valid) then attitudes can be studied with relative confidence. Despite this defence of the study of attitudes, generalisation from attitudes to behaviour should still be conservative, particularly in situations where other factors are particularly influential. For example in situations of perceived lack of control or need for conformity attitudes reported and behaviours displayed may not reflect the actual attitude that the person holds. For example the classic obedience and conformity studies (Milgram, 1963; Zimbardo, Haney, Banks & Jaffe, 1973) outlined the importance of contextual factors on reported attitudes and behaviours.

Despite the questions raised about attitude measurement, Chan, Barnes-Holmes, Barnes-Holmes and Stewart (2009) reviewed attitude literature and commented that the most common way to ascertain information about attitudes continues to be by simply asking people, through use of questionnaires, interviews, focus groups, etc. Verbal information regarding attitudes is then converted into a numerical score for comparison (Eiser & Pligt, 1988). The advantage of this technique is that it allows numerous individuals' attitudes to be compared and the longitudinal study of attitudes across time and contexts (Eiser & Pligt, 1988).

However, these methods, although useful may fail to recognise the rich, complex and meaningful nature of attitudes that cannot be represented by a single numerical value (Eiser & Pligt, 1988). Furthermore, they may miss implicit thoughts, feelings and beliefs that participants may not be consciously aware of or may be trying to conceal (Chan et al, 2009). Nevertheless, it has been suggested that the study of attitudes is acceptable, provided that any assumption or interpretation of numerical scores is pragmatic and does not seek to be overly speculative (Eiser & Pligt, 1988).

1.1.4 Implicit versus Explicit attitudes

The above noted difficulties in identifying implicit attitudes that individuals are either not consciously aware of or are seeking to disguise gave forth to one of the major movements in attitudinal research in recent years (Bohner & Wanke,

2002). Researchers turned to the study of implicit attitudes alongside explicitly stated attitudes in order to fully understand the complexity of the phenomenon.

Implicit attitudes are “Introspectively unidentified (or inaccurately identified) traces of past experience that mediate favourable or unfavourable feeling, thought, or action towards social objects” (Greenwald & Banaji, 1995, p. 8). Often individuals may not be aware of these implicit attitudes and have little conscious knowledge of how they impact on their behaviour (Barnes-Holmes et al, 2006). It has been proposed that attitudes do not *need* to be consciously accessed to demonstrate control over a person’s reactions and behaviour may be automatically produced from a person’s attitudes (Dovidio et al, 2002). In this way attitudes can be termed as implicit as well as explicit.

In order to address the aforementioned difficulties in self-report measures of attitudes, a number of implicit attitude measurements were developed. The Implicit Association Test (IAT) was first developed by Greenwald, McGhee and Schwartz (1998) and is based upon the idea that when presented with target-concept discriminations (such as flower versus insect) and pleasant/unpleasant meaning words (e.g. happy/ugly), participants will respond more quickly to associations that reflect their implicit attitudes.

The IAT method has proved useful in a number of research studies investigating diverse areas such as social anxiety (de Jong, 2002), depression (Gemar, Segal, Sagrati & Kennedy, 2001), neuroscience (Cunningham et al, 2004; Phelps, O’Connor, Cunningham, & Gatenby, 2000; Richeson et al., 2003)

and health psychology (Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003).

Although the measure demonstrated good validity and reliability (Milne, Barnes-Holmes, Barnes-Holmes, & Stewart, 2005) and was clearly useful in its application, the IAT has been criticised for not indicating the directionality of the associations between concepts (De Houwer, 2002) and for lacking an appreciation of the dependency of measurement on context variables (Dasgupta & Greenwald, 2001). There was also a criticism that individuals could still manipulate their responses (Milne et al, 2005).

Later developments in measuring implicit attitudes sought to answer the limitation IAT has in not assessing directionality. Using relational frame theory (RFT) as a theoretical stance, the Implicit Relational Assessment Procedure (I-RAP) was developed (Barnes-Holmes, Hayden, Barnes-Holmes, & Stewart, 2008). This was similar to the IAT but also incorporated relational terms (e.g. better, worse) to allow directionality of association to be assessed. Although this method has begun to be used in a number of studies, it is noted that considerable research is needed to confidently assess its reliability and validity (Barnes-Holmes et al, 2008).

1.2 Intellectual Disabilities

Definition

Intellectual disability (ID) is a relatively recently used term that is slowly replacing earlier terms such as learning disability, developmental disability and mental retardation. There are various definitions of what an ID actually is and it is often deemed as simply a low IQ score, i.e. scores below 70 on the WAIS-III (Weschler Adult Intelligence Scale, 3rd Edition; Weschler, 1997). This concentration on IQ scores forms a large part of the diagnostic criteria in the Diagnostic and Statistical Manual (fifth edition, text-revision: DSM-IV-TR) (APA, 2000), see appendix one for full diagnostic criteria.

However, the Department of Health (DH, 2001) states that ID is much more complex than this and in the “Valuing People” White Paper put forward one of the most comprehensive definitions to date. This definition identifies 3 key traits of ID: (1) A significant reduction in the ability to understand new or complex information and to learn new skills (impaired intelligence), with; (2) Reduced ability to cope independently (impaired social functioning); and (3) Which began before adulthood, with long term effects on development.

Prevalence

Prevalence of ID is estimated at 1-3% of people in the general population (Fryers, 2000; Volkmar & Dykens, 2002). Of those with ID, 85% are estimated to have mild ID, 10% have moderate ID, 3-4% have severe ID and 1% profound

ID (Carr & O'Reilly, 2007). Comorbidity is high amongst those with ID, particularly for Autism, Attention Deficit Hyperactivity Disorder (ADHD), epilepsy and sensory impairments (Carr & O'Reilly, 2007). Additionally there is a high prevalence of Schizophrenia within ID populations, estimated at 1-9%, compared to 0.5% in the wider population (Carr & O'Reilly, 2007).

1.3 Attitudes to ID

1.3.1 Negative attitudes

Slevin and Sines (1996) conducted a review of the research on attitudes towards people with ID and found that society had largely negative views of this group. Throughout history, people with ID have been marginalised from society, commonly institutionalised and excluded from participating in community activities (Ouellette-Kuntz, Burge, Henry, Bradley, & Leichner, 2003). Views of those with ID have ranged from being seen as sub-human, as a menace, an object of pity a burden, as a holy innocent or eternal child (Ouellette-Kuntz et al, 2003). Individuals with ID have been subjected to stigmatisation, segregation and the Eugenics movement of the nineteenth century even called upon them to undergo enforced sterilisation (Slevin & Sines, 1996).

Kordoutis, Kolaitis, Perakis, Papanikolopoulou and Tsiantis (1995) attempted to classify these negative attitudes using a working theoretical framework employed by past attitudinal studies (Safilios-Rothschild, 1970; Messick & Mackie, 1989). They found that attitudes tended to be stereotyped and categorical, with all people with ID viewed as the same and as lacking individual

differences. They were also seen as less than human, as society deemed them to lack the cognitive, affective and moral elements needed to distinguish them as a person. Negative attitudes towards people with ID also involved the concept that segregation from society was not only useful but necessary, both to protect them and because their behaviour deviated from what is socially acceptable (e.g. challenging behaviour).

1.3.2 Positive Shifts in Attitudes

However, slowly over time, there has been a shift to more positive attitudes. ID individuals are now viewed as developing people with the propensity to learn, develop and become more independent (Ouellette-Kuntz et al, 2003). This shift has been echoed in the move of care provision from asylums, to hospitals, on to specialised institutions and finally to the community (Ouellette-Kuntz et al, 2003). Additionally attitudes seem to have been influenced by the ideas of normalisation (Wolfensberger, 1972) and individual worth (Vanier, 1971) (discussed by Ouellette-Kuntz et al, 2003). This idea of inclusiveness drives public policy and individuals with ID are encouraged to be empowered to make life decisions and undergo positive risk taking (Ouellette-Kuntz et al, 2003).

1.3.3 Government initiatives

In more recent times there have been a number of government-led initiatives, which appear to be both driven by this shift in attitudes and also encouraging further movement. In 1971 a government whitepaper “Better services for the mentally handicapped” was published (DH & Social Security, 1971). This paper

called for improvements in ID services noting that institutional settings tended to be poorly-staffed and under-resourced.

In 1992 the “Mansell Report” was published (Mansell, 1992), which made a stronger call for inclusion of ID services within community settings, whilst also maintaining an individualised service. This was echoed in the paper “The Same as You?” (Scottish Executive, Health Department, 2000) and in the more recent government white paper “Valuing People” (DH, 2001). In the last few years one of the major initiatives within ID services has been the implementation of the “Mental Capacity Act” (Department of Constitutional Affairs, 2005), which primarily seeks to increase autonomy by providing individuals the right to make decisions, even if they may be unwise.

1.4 Details of Studies: Attitudes to ID

McConkey and Truesdale (2000) asked 1008 nurses, therapists, undergraduate students and staff working with ID to complete a questionnaire about their attitudes towards people with ID. Participants reported largely negative attitudes and stated that they were generally under-confident working with people with ID and felt underprepared for this type of work.

Slevin and Sines (1996) measured the attitudes of 31 randomly selected nurses. A modified version of the Attitudes Towards Disabled Persons (ATDP) scale was used (Yucker, Block & Young, 1966) with all 31 participants, of which

10 participants were selected for in-depth interviews. The results indicated that the nurses held more negative attitudes than expected by the authors, with strong themes of segregation and exclusion present. These studies had robust methodology and drew from a wide sample of staff; therefore the results can be accepted with some degree of confidence.

1.5 Impact of Attitudes towards ID

The impact of attitudes towards people with ID has been well-documented. As discussed above, the impact of societal attitudes has, in the past, meant that people with ID have been physically and socially excluded, spending much of their lives in institutions (Hubert & Hollins, 2006). Recently, in America, the negative connotations of the label of ID have been so great that practitioners are reluctant to give this diagnosis (Sturmey, 2002). Rather, inaccurate but more “palatable labels” (Sturmey, 2002, p.489) such as emotional disabilities are being applied even when the person does not meet the diagnostic criteria.

Attitudes of care staff are particularly important and Hastings (1997a) asserts that from both a theoretical (i.e. Attribution theory) and clinical stance, staff beliefs impact on the process of care for people with ID; with cognitive attitude’s particularly determinant of behaviour (Campbell & Hogg, 2002). Staff attitudes are one of the biggest contributors to the reinforcement or management of challenging behaviour within ID and influencing therapeutic outcomes (Hastings & Remington, 1994; Hastings, Tombs, Monazi & Boulton, 2003; Hastings,

1997a; Campbell & Hogg, 2008; Redhead, Duff & Paxton, 2007). Staff themselves report that their attitudes impact upon their behaviour. Hastings (1995) found that 53% of staff felt that their emotions influenced their responses.

Elgie and Hastings (2002) studied 50 staff working with adults with ID. Staff were asked how they felt about a number of behaviours (i.e. whether they were challenging or not). Staff were then asked whether these behaviours should be the focus of intervention. The findings confirmed that staff beliefs about challenging behaviour significantly impacted on their subsequent reported behaviour (i.e. whether or not they intervened). However, although this study clearly indicates the impact of staff beliefs on behaviour, methodological issues may compromise the generalisability of the findings. Specifically the use of these hypothetical vignettes appears to be a long way from witnessing links between attitudes and behaviours in real life or ecologically valid situations.

These negative attitudes towards challenging behaviour in people with ID may have a detrimental effect on staff themselves. Snow, Langdon and Reynolds (2007) interviewed 41 care staff working with people with ID about challenging behaviour. Participants were also asked to complete a demographic questionnaire, the Maslach Burnout Inventory (Maslach & Jackson, 1986), and the Leeds Attributional Coding System (Stratton, Munton, Hanks, Heard & Davidson, 1988). Results showed a significant association between contact with challenging behaviour and emotional exhaustion. They also found that

more negative causal attributions about challenging behaviour were related to higher levels of burnout. Although this study was largely focused upon self-injurious behaviour, which may limit its application to other forms of challenging behaviour, it points to the serious effects that staff attitudes may have when working with people with ID. These results have been shown in previous similar studies, such as Jenkins, Rose and Lovell (1997), who found staff were significantly more anxious when working with people with challenging behaviour, than those who were not.

1.6 Challenging Behaviour

1.6.1 Challenging Behaviour: Definition

Challenging behaviour is a term initially endorsed by The Association for People with Severe Handicaps to replace a number of terms such as aberrant, disordered, disturbed, abnormal, dysfunctional, maladaptive and problem behaviours (Emerson, 2001a). One of the most widely used formalised definitions of challenging behaviour was proposed by Emerson (1995) who described:

“culturally abnormal behaviour of such intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities” (pp. 4-5).

Within ID client groups the types of challenging behaviours exhibited include aggression [towards others], property damage, self-injury, sexually inappropriate acts and stereotyped behaviour (Hastings, 1997a; Hastings, Remington & Hopper, 1995; Emerson, 2001a).

Broader definitions of challenging behaviour include any behaviour that is

“...harmful to the individual (e.g. eating inedible objects), challenges carers or care staff (e.g. noncompliance, persistent screaming, disturbed sleep patterns and over-activity) and/or objectionable to members of the public (e.g. regurgitation of food, the smearing of faeces over the body).” (Emerson, 2001a, pp.3).

1.6.2 Prevalence

Challenging behaviour is common within ID populations, more so than other populations (Murphy & Mason, 1999). There have been a relatively limited number of studies that attempt to identify the prevalence of challenging behaviour within ID populations in its broadest definition (Emerson, 2001a). Of those studies that do exist, one widely quoted figure is “10-15% of users of educational, health or social care services for people with ID” having shown challenging behaviour (Emerson et al, 1997; Emerson, 2001b, pp.1).

More common prevalence estimates concern specific types of challenging behaviour, although these demonstrate considerable variance in prevalence rates reported (Cooper et al, 2009), which is likely due to differences in operational definitions of behaviours, case identification (i.e. different ID diagnoses) and sampling strategies (Emerson, 2001a). Estimates of aggressive challenging behaviour range from 2.1% (Borthwick-Duffy, 1994) to 51.7% (Crocker et al, 2006), although more recent estimates indicate less variance with prevalence between 10 and 20% (Terineij & Koot, 2008). Much of this disparity may be due to differences in definitions of behaviour typologies. Additionally differences may be due to differences in sample characteristics, methodologies and exclusion of mental health symptoms (Cooper et al, 2009).

Challenging behaviour, particularly aggressive sub-types, are most likely to be demonstrated by men (Sigafos, Elkins, Kerr & Attwood, 1994; Holland, Clare & Mukhopadhyay, 2002), with more severe levels of ID (Tyrer et al, 2006), with violent histories (Linaker, 1994) and aged between 20 to 35 years (Tyrer et al, 2006). The evidence regarding the chronicity of challenging behaviour in individual's with ID is limited (Bailey et al, 2006) but it is proposed to develop early in life and be persistent over time (Emerson, 1995).

1.7 Attitudes to Challenging Behaviour

There is mixed evidence in the support of attribution theory within staff working with individuals with ID. Dagnan, Trower and Smith (1998) studied 20 care staff working with ID and challenging behaviour and a comparison group of staff

working with older people. Using path analysis, the study showed that when staff made attributions of controllability they experienced more levels of optimism and were therefore more likely to display helping behaviour. Additionally, Bailey et al (2006) asked 27 care staff working with individuals with ID to complete the CHABA and ERCB, and found that internal, stable and uncontrollable attributions lead to increased negative emotions, but that this had no relation to willingness to help.

Hastings (1995) conducted an exploratory study, interviewing staff working with people with ID. Findings indicated that staff made attributions about challenging behaviour that were consistent with current models of causation and also experienced negative emotions. Bromley and Emerson (1995) conducted a survey of all people with ID in one metropolitan borough. Their findings showed that care staff display emotional attitudes such as fear, disgust, anger, sadness and despair towards challenging behaviour in people with ID.

More recently, Weigel, Langdon, Collins and O'Brien (2006) examined 15 staff working with people with ID who exhibited challenging behaviour. Participants completed an attributional questionnaire and an emotional expression rating scale, the Five Minute Speech Sample (FMSS) (Magana et al, 1986). The results indicated that staff deemed the challenging behaviour to be controllable by the individual and expressed high levels of criticism. Given the relatively small sample size involved in this study, these results may not be able to be

generalised to a wider population, although are supported by the findings of other authors.

1.8 Influencing factors

1.8.1 Qualification

Research has shown that graduate nurses, particularly those holding a social sciences degree, have more positive attitudes towards individuals with ID than undergraduate nurses (Lillis & Wagner, 1977; Slevin, 1995; Gordon, 1999). Slevin and Sines's (1996) study found significantly more positive attitudes in graduate nurses when compared with nurses without degrees. This finding has implications for the results of McConkey and Truesdale's findings (2000) (previously discussed in extended paper 1.4), which found that staff hold negative attitudes towards ID and are under-confident dealing with challenging behaviour. As that study recruited exclusively from a graduate (or undergraduate) participant pool, attitudes held were possibly artificially positively inflated. Therefore it is possible that the negative attitudes found were an under-representation of the negative attitudes of a wider healthcare professional population.

1.8.2 Training

Berryman, Evans and Kalbag (1994) investigated attitudinal change in 83 participants following two different types of training workshops. Attitudes were measured using the Causal Attributions for Challenging Behaviour Scale

(designed by Berryman et al) and the Attitudes Towards Disabled Persons Scale (Yucker et al, 1966). Results showed that following training there were significant differences in the types of causal explanations for challenging behaviour offered by staff and these changes were maintained at a 9-month follow-up.

Tierney, Quinlan and Hastings (2006) investigated the effects of a 3-day training course on understanding challenging behaviour on staff's attitudes. 48 staff working with people with ID completed the Challenging Behaviour Attributions Questionnaire (CHABA) (Hastings, 1997b) and the Emotional Reactions to Challenging Behaviour Scale (Mitchell & Hastings, 1998) both pre-training and 3-months post-training. Results showed that staff reported a significant increase in self-efficacy and confidence. Conversely, there were no significant reductions in negative emotional attitudes. This study questions the link between level of training and attitudinal change. However, this study is methodologically flawed, having no control condition and no immediate post-training testing. Therefore it is impossible to assess the actual efficacy of the training. It is possible that the training was ineffectual and there were no changes in attitudes; however, it is also equally possible that the training did bring about changes in attitudes but they were not sustained, either due to a flaw in the training or because of extraneous factors in the work environment. Therefore, although it would appear that there is evidence for the link between training and attitudinal change, more conclusive research is required.

Dowey, Toogood, Hastings and Nash (2007) conducted an investigation to see if training impacted upon the types of attributions staff make around challenging behaviour. They conducted a one-day training workshop for fifty-four clinical staff. Participants were asked to complete the Self-Injury Behavioural Understanding Questionnaire (SIB-UQ, Oliver, Hall, Hales & Head, 1996) pre and post training. Dowey et al (2007) found that staffs use of behavioural causal explanations for challenging behaviour significantly increased after training. Although this study primarily focused upon the self-injurious subtype of challenging behaviour it does give clear indications that training can be a significant impact on the types of attributions staff make about challenging behaviour.

1.8.3 Experience

Donaldson's (1980) review of the literature found that 60% of studies found a positive shift in staff attitudes towards people with ID following increased contact. Hastings et al (1995) studied staff's reactions to challenging behaviour presented in vignettes. They found that inexperienced staff were more likely to give emotional attributions for challenging behaviour than experienced staff.

Slevin and Sines (1996) study previously discussed above in section 1.4, concluded that participants with more experience and who have had most contact with individuals with ID responded with much more positive attitudes. In a later study, Hastings et al (2003) used videos of challenging behaviour and

asked them to report their emotional reactions/attitudes towards it. They found that the more experienced staff displayed significantly less negative emotional responses than inexperienced staff.

However, these studies relied on staff reporting their responses outside of the “real world” event. Authors have posited that participants are likely to respond to real world events differently than they do to hypothetical scenarios (Wanless & Jahoda, 2002; Snow et al, 2007). In addition, staff’s responses were recorded using forced choice questionnaires which, Snow et al (2007) propose, further reduces the correlation to the real world responses.

1.8.4 Age

Wanless and Jahoda’s study (2002) found younger staff have more negative attitudes whilst older staff are more tolerant. Additionally, Tervo and Paller (2004) studied 338 health professional students (including nurses, medics and allied professionals). Participants were asked to complete the Attitude Toward Disabled Persons (ATDP) scale (Yucker et al, 1966), the Scale of Attitudes towards Disabled Persons (SADP) (Antonak, 1981) and the Rehabilitation Situations Inventory (RSI) (Dunn, Umlauf & Mermis, 1992). Results of this study showed that attitudes towards people with ID are significantly influenced by age, alongside gender, level of education, years of experience and training.

1.8.5 Gender

Gill, Stenfort Kroese and Rose (2002) studied attitudes towards individuals with ID and found women reported more positive attitudes. Gill et al (2002) developed a scale specifically for measuring attitudes towards people with ID, piloting the scale on a representational sample. They found that female respondents had a significantly higher mean general attitude scores than male respondents, which denotes a significantly more positive attitude than men. However, the authors note several limitations in the development of their attitude scale, specifically the fact that components such as normative beliefs, efficacy beliefs and intentions, were omitted from this version of the scale.

Ouellette-Kuntz et al (2003) also investigated gender as a factor in their study of staff attitudes towards people with ID and found females had more positive attitudes. They investigated the attitudes of 52 senior psychiatric doctors (27 men and 25 women) using the Community Living Attitudes Scale (CLAS) (Henry, Keys, & Jopp, 1998). They found significantly different scores for male and females; with female participants having higher scores on subscales such as Similarity (the perceived similarity of persons with ID to oneself) and Sheltering (the need of a person with ID to be protected). Conversely male participants had higher scores on the Exclusion subscale (desire for people with ID to be removed from community/society). These results indicate that there are significant gender differences in attitudes towards ID, which supports previous similar findings (Hampton & Crystal, 1999). However, a criticism of this study involves the use of the CLAS, which had not been used with a similar sample. It

is therefore possible that the differences between the genders are due to the CLAS construction.

It would appear that although past research has been methodologically flawed, there is some indication of the relevance of gender as a factor in attitudes towards people with ID. However, alternative studies have not found any such significant differences between staff gender and attitudes towards challenging behaviour displayed by individuals with ID (McGill, Hughes, Teer & Rye, 2001).

1.9. Offending Behaviour

1.9.1 Definition and epidemiology

Within the criminal justice system “offending” is defined as an illegal act, along with intent and knowledge of consequences, so called *mens rea* (Anderson, 2005). People who offend typically come from poorer urban environments, have poor social skills, have social or financial difficulties, and are more likely to be male, in their early twenties (Seaward & Rees, 2001).

1.9.2 Similarities to challenging behaviour

It is often difficult for *mens rea* to be established within ID populations, although this varies dependent upon the severity of impairment (Anderson, 2005). When *mens rea* is questioned the distinction between offending behaviour and challenging behaviour ameliorates (Emerson, 1995). Indeed the differentiation between the two categories of behaviour moves away from topography and becomes dependent on whether or not the individual enters the criminal justice

system (Anderson, 2005). Some authors even use this arbitrary distinction as a definition itself, stating that 'offending behaviour' is a criminal offence that results in contact with the criminal justice system (Seaward & Rees, 2001). Not only is this a circular definition but fails to account for the vast amount of potentially offending behaviour committed by individuals that never come into contact with the criminal justice system. Such a poor distinction between offending and challenging behaviours underpins a great deal of the difficulties in service provision and attitudes towards ID offenders, as discussed later.

1.10 Attitudes towards Offender Populations

1.10.1 Attitudes to Offenders

It has been postulated that staff attitudes to offenders, particularly serious offenders (i.e. those who commit sexual offences or those with personality disorders) tend to be extreme, often viewing them as different, untreatable and untrustworthy (Hogue, 2003). Whilst offenders tend to make external attributions for their own behaviour, staff are much more likely to make internal attributions about offences (Brewer, 2000). Sexual offenders have received particular attention within the literature and authors report significant negative staff attitudes expressed towards them, stating that they are untreatable, abnormal, stereotypical and viewed more negatively than other offenders (Craig, 2005; Akerstrom, 1986; Lea, Auburn & Kibblewhite, 1999; Weekes Pelletier & Beaudette, 1995).

Moore et al (2002) studied speech samples from staff in three forensic services for inpatients. They assessed the level of emotional expression from staff displayed towards patients. Results showed that staff displayed high levels of criticism towards patients. However, this study does not offer any potential explanation or investigation into the potential causes or contributory demographic factors in these negative attitudes.

1.10.2 Influencing factors

Gender

Ireland (1999) did attempt to investigate potential demographic contributory factors to negative attitudes. She studied a prison population and looked at staff attitudes towards bullying by patients. She found that female staff were much more likely to show empathy for victims and consequently display more negative attitudes towards the aggressor than male staff. This result has been replicated in further studies (e.g. Ireland & Clarkson, 2007). Although this study investigated bullying, rather than challenging behaviour, it does indicate the importance of gender as a factor within attitudes. Consequently the impact of gender will be explored by the current study.

In a more recent study (Higgins & Ireland, 2009) staff working with offenders were asked to read vignettes of offences and complete an attitudinal scale. Results indicated that female staff had far more positive attitudes than male staff, who tended to be harsher in their judgements. Additionally occupation

influenced attitudes, with the most positive attitudes being expressed by rehabilitation staff and the most negative by prison officers. Offender and victim characteristics (e.g. gender or age) did not influence attitudes.

Training

Hogue (1995) studied a three week staff training program aimed to give staff the knowledge, skills and experience needed to facilitate treatment groups. Post-training staff reported significantly more positive attitudes to offenders in general and particularly sexual offenders, which was maintained at 6-month follow up. This indicates that training may impact upon attitudes. Conversely, Craig (2005) studied a 2 day course for 85 hostel workers and probation officers working with sexual offenders and did not find a change in attitudes following training. However, he did note staff experienced an increase in knowledge

Job requirements

In contradiction to the above discussion, Nelson, Herlihy and Oescher (2002) found that counsellors working with offenders reported largely positive attitudes. They hypothesised that this was due to the requirements of their roles as counsellors, needing to show empathy and acceptance to their clients, an attitude that is fostered in their professional training. They additionally reported that more experienced counsellors expressed more positive attitudes, but did not find any link with level of training and expressed attitudes.

1.10.3 Impact

Staff attitudes have huge impacts on offenders with particularly negative attitudes being a barrier to change, impacting upon offender rehabilitation and motivation to treatment and resulting in longer inpatient stays (Hogue, 2003; Glaser, 1969; Young, Antonio & Winegeard, 2009). Conversely extremely positive attitudes increase the risk of offenders being released before the risk of recidivism is sufficiently reduced (Hogue, 2003). Sexual offenders in particular are marginalised and stigmatised by nursing staff (Correy & Goren, 1998; Rash & Winton, 2007).

1.11 A dearth of knowledge of intellectually disabled (ID) offenders

Very little focus has been placed on research, support or intervention for ID offenders. The landmark government white paper “Valuing People” (DH, 2001) which set out its aims as improving the life chance of all people within this “vulnerable and socially excluded” group (p. 2), gives scant mention to ID offenders. The only reference to ID offenders is “Prisoners with ID present a wide range of issues” (p.95). More recently attention has turned to this client group (Ward & Hayes, 2007), with a recent increase in research and clinical attention (Hayes, 2007).

One of the major factors that hindered research into ID offenders was the difficulty in identifying the client group, with diagnostic variations having had a significant impact on prevalence rates (Holland et al, 2002; Jones, 2007; Murphy & Mason, 2007; Mannynsaio, Putkonen, Lindberg & Kotilainen, 2009).

Consequently the prevalence rate of offenders with an ID is not agreed upon, with estimates ranging from 0% to 85% of offender populations having some degree of ID (Talbot & Riley, 2007).

A recent study by Hayes, Shackell, Mottram and Lancaster (2007) tested a prison population using the WAIS-III (Weschler, 1997). They found that 7.1% had standard scores below 70, which would indicate the presence of an ID. However, a further 23.6% had scores of 70-79, which would be within the borderline range. This would indicate that a significant proportion of prison populations may have some degree of ID. More recently, Herrington (2009) investigated prevalence of ID across 185 adult males (aged 18-21 years old) in forensic settings. Participants were assessed through the use of the Kaufman Brief Intelligence Test (Kaufman & Kaufman, 2004) and the Vineland Adaptive Behaviour Scale (Sparrow, Cichetti, & Balla, 2005). Herrington found that 10% of the population had IQ's below 69 (indicating ID) with a further 24% between 70 and 79 (borderline ID). Combining IQ and Vineland scores Herrington deduced that 11% of the population had a borderline ID, with none reaching the full diagnostic criteria for ID.

However, studies such as this have been heavily criticised as a low IQ level, as measured on the WAIS-III (Weschler, 1997), is not in itself enough to diagnose an ID (DH, 2001; Talbot & Riley, 2007). In order to answer this criticism studies have used the alternative approach of assessing offending behaviour within an ID population. Taylor (2002) reviewed a number of studies that have reported

aggressive behaviour amongst people with ID; using this methodology prevalence rates of offending range from 20-60%.

Although this focus upon offending behaviour goes some way to answer the criticisms of previous prevalence research, there is a further complication given the similarity between offending behaviour and challenging behaviour (Winter, Holland & Collins, 1997). The very definition of challenging behaviour is such that some of the behaviour demonstrated by people with ID could be re-classified as offending behaviour (such as violence/aggression or property damage).

1.12 Hayes (2007): The Unanswered Questions

Hayes (2007) noted that although research and clinical attention has turned towards people with ID who have offended, there are still significant areas that require further attention. Hayes identifies five key issues that need to be addressed, which have emerged from literature and practice. They are:

1. Uncertainty about the numbers of offenders with ID (i.e. their prevalence within various sections of the criminal justice system);
2. Lack of identification of individuals with an ID among offenders, which results in inappropriate treatment of this group within the criminal justice system;

3. Lack of knowledge about ID on the part of professionals in the criminal justice system;
4. Lack of diversionary options, at all stages of the criminal justice system;
5. A dearth of services within the community, specialist services and units and in prisons, designed to meet the particular needs of offenders with ID.

(Taken from Hayes, 2007, pp 147)

Expanding on point three, it could be argued that not only does the knowledge of professionals need to be developed but also the attitudes of those professionals need to be known. Additionally point five can be taken a step further, as where specialist services do exist it is important to establish the quality of service provision they offer.

1.13 Negative Attitudes towards ID Offenders

Once within the criminal justice system ID offenders are often subjected to negative attitudes. ID offenders are more likely to be treated out of area (Kearns, 2001; Vaughan, 1999) and have longer inpatient admissions (Holland et al, 2002). They are likely to be excluded from mainstream and community services and therefore face significant delays in discharge, as specialist placements are very rare (Reed, Russell, Xenitidis & Murphy, 2004; Watts, Richold & Berney, 2000). There are also significant differences in the types of sentence given to people with ID who are convicted of crimes, with a higher proportion being detained when compared with non-ID offenders (Cockram, 2005a).

Staff attitudes also appear to reflect the belief that people with ID in the criminal justice system, are far more capable than they may actually be. This may be a necessary attitude as the very nature of the justice system is reliant upon the notion of human agency (Jahoda, 2002). However, consequently ID offenders are often not afforded the necessary support they require, such as not being given an appropriate adult during police interviews (Leggett, Goodman & Dinani, 2007). Whilst these studies indicate negative attitudes to ID offenders, through poor service provision and staff behaviour, there is a significant lack of research measuring *actual* staff attitudes towards this client group.

1.14 Protective and Tolerant Attitudes

Attitudes towards ID offenders have been shown to be somewhat tolerant and overly-protective. There is a drive to protect individuals with ID from the law and justice system (Seaward & Rees, 2001) due to seeing them as innocent and without malicious intent (Jahoda, 2002). This tolerance has also been demonstrated by police, who argue that these attitudes are necessary and required in order to meet the police codes or ethics (Bailey, Barr & Bunting, 2001). There are also reports that some police officers operate under the belief that inpatients within mental health or ID services are unable to be prosecuted and are therefore reluctant to charge people with ID (Hakeem & Fitzgerald, 2002). Studies have also investigated healthcare professionals' attitudes towards this client group and attitudes appear to reflect this protective and tolerant attitude. Staff are also likely to attribute challenging or offending behaviour as outside of the individuals control (Holland et al, 2002).

Lyall, Holland and Collins (1995) investigated 358 adults with ID across 22 service provisions, including hostels, group homes and day centres. Of these only 2% (7 people) had been in contact with the police during a 12 month period. Staff working with these clients reported that they would hardly ever report theft and criminal damage. Sexual assault would be reported to the police in only 3 out of the 22 service provisions, with 1 service stating that it would be hesitant to contact the police even for serious crimes such as rape. However, although this research provides important information on staff attitudes it gives little indication on how these attitudes are actually acted upon. The study did not make clear whether the low contact rate of the ID clients was due to actual low offending rates or because the staff were acting in accordance with their protective attitudes.

Hakeem and Fitzgerald's (2002) study answered this criticism by looking at actual staff reactions to incidents of challenging behaviour. A total of 96 incidents were recorded, 55 involving physical violence, 25 verbal aggression/threats, 8 racial abuse, and 8 sexual threats. In only 5 cases were the police contacted and in no cases were those involved prepared to press charges. However, there are limitations to these findings as the study was reliant upon retrospective data. Staff recruited for the study stated that they were inconsistent in their completion of incident records and may have recorded some details inaccurately. This points to an under-recording of incidents which implies the number of potentially offending behaviours not reported to the police is under-represented. This lack of acknowledgement of

offending behaviour by staff is reflected within services as they lack the policies and procedures to manage such behaviour (Lyall et al, 1995).

1.15 The impact of attitudes towards ID Offenders

The impact of both protective/tolerant and negative staff attitudes towards ID offenders is significant and a number of possible implications are discussed below.

1.15.1 Protective and Tolerant Attitudes

Risk to others

If very tolerant attitudes are found to be prevalent then there is a risk that aggressive, violent and threatening people with ID (i.e. offenders) will continue to be cared for with other potentially vulnerable ID patients (Hakeem & Fitzgerald, 2002). This could potentially lead to increased risk and exacerbate the burden of care of providers. Reed et al (2004) conducted a study of 86 former in-patients (45 offenders and 41 non-offenders). They found that the non-offender group was significantly more assaultive towards staff and patients and were significantly more likely to use weapons. It is possible to hypothesise that this was due to inappropriately placed ID offenders or inappropriate management of the behaviour due to incorrect assessment of risk (i.e. from overly tolerant attitudes).

This study is limited as it only investigates inpatient services, and therefore potentially assessed more challenging clients. Additionally, the differences between the offender and non-offender groups may be insignificant when taking into consideration the difficulties with defining offending and the reluctance of staff and authorities to charge and prosecute individuals with ID (Lyall et al, 1995; Hakeem & Fitzgerald, 2002). However, it indicates the significant risk that tolerant attitudes may pose.

Restrictive management

If challenging behaviour is not considered significant and individuals continue to be overly-protected by staff then there is a risk that they may continue to be cared for in inappropriate or unequipped placements, which could lead to extreme management techniques. Challenging behaviour, particularly aggression, is often managed through the use of sedation or seclusion (Tenneij & Koot, 2008). Hakeem and Fitzgerald's study (2002) found that the most common management was through emergency sedation medication. There is an increasing concern that using this type of medication is not appropriate for controlling non-psychotic behaviour (Anderson & Reeves, 1991) and that the potential side effects of such medication is extremely dangerous (Thompson, 1994).

Alternatively management techniques such as physical restraint are often employed (Reed et al, 2004; Murphy, Kelly-Pike, McGill, Jones & Bryant, 2003). Recent evidence identified 50% of people with ID and challenging behaviour

having been subjected to a physical restraint (Emerson 2003). This has significant risks associated with it, the most worrying being the risk of injury to the client (Stratton, Rogers & Brickett, 2001; Patterson et al, 2003). Such physical injury is common and particularly likely if the restraint is unplanned (Spreat, Lipinski, Hill & Halpin, 1986), which is more likely if staff attitudes are overly positive and adequate risk assessment is not conducted. In extreme cases clients have died as a result of inappropriately used physical restraint (DH & Social Security, 1985; Community Care, 1997).

Additionally staff are subject to injury from physical restraint. Hill and Spreat (1987) studied ID facilities in the USA over a one year period and recorded 456 staff injured as a result of physical restraint. Therefore it is possible that this protective attitude is detrimental to offender, potential victim and society.

1.15.2 Impact of negative attitudes

Negative staff attitudes to ID offenders also have significant impact and it has been argued that this may lead to longer stays within inpatient services, with community services being unwilling to meet the needs of ID offenders (Holland et al, 2002). Those services that are available within the community tend to be segregated, in small isolated settings, where opportunity for social contact is limited (Frantz, 2008). The inequality in the provision of services towards ID offenders has been noted to breach government policies and basic human rights, resulting in increased burden upon the NHS (Home Office, 1995; DH & Home Office, 1992; DH, 2001).

Once within services, challenging behaviour provides a barrier to proper treatment (Gardner & Moffat, 1990; Cowley, Newton, Sturmey, Bouras & Holt, 2005). This mirrors the findings of wider ID populations, as identified in Hastings (1997a) and Elgie and Hastings (2002) (discussed in extended paper 1.7).

1.15.3 Impact on staff behaviour

As discussed previously (in section 1.1), Attribution theory would point to the idea that staff attitudes towards challenging behaviour would determine their behavioural responses to it (Snow et al, 2007). It is hypothesised that if staff make attributions that challenging behaviour is internal, stable and controllable by the client, there will be a negative emotional reaction which will be followed by a change in behaviour, such as withdrawal of support (Snow et al, 2007).

However, whilst support has been found for these hypotheses, Jones and Hastings (2003) found contradictory evidence, when investigating staff attitudes towards self-injurious behaviour. They found that internal control was in fact associated with a relaxed and confident staff response; external control was associated with depressive and angry responses from staff. This contradicts early attribution hypotheses and indicates that the focus of challenging behaviour (i.e. towards self or others) is another important factor in determining staff responses.

Sturmey (2002) has discussed the importance of staff within patient treatment, noting that they are vital for social support and are an essential component for rehabilitation. Indeed many behavioural interventions are dependent upon staff to implement them. There is evidence that increased positive attitudes lead to increased willingness by staff to carry out these interventions (Reimers, Wacker, Cooper & DeRaad, 1992; Watts, Reed & Hastings, 1997). Recent studies have also found that staff attitudes [and consequent behaviour] have a significant impact on the clinical outcome of such interventions (Moore et al, 2002).

Given this it is vital that negative attitudes are identified and measures taken to increase the positivity of staff. Hastings (1997b) suggests this can be done through staff training and increasing their efficacy and coping skills for challenging behaviour. Therefore it is important that we identify staff attitudes and factors that can affect them in order to improve staff responses.

1.15.4 Impact on staff

Challenging behaviour has shown to be a clear predictor in the development of stress and subsequent burnout in staff in ID services (Dyer & Quine, 1998; Long, Collins, MacDonald, Johnston & Hardy, 2008), with inpatient aggression being particularly significant in their development (Tenneij & Koot, 2008).

The term stress refers to physical, psychological and social forces or pressures that result in psychological tension (Reber, 1995), which can lead to conditions

such as burnout. Burnout is defined as “an impairment of motivation to work, resulting in a growing inability to mobilise interest and abilities” (Potter, 1995, pp1). Symptoms include feelings of frustration, anger, depression, dissociation, anxiety, extreme emotional outbursts, fatigue, and apathy. Furthermore burnout can lead to reduced performance, an increase in maladaptive coping mechanisms (such as drugs and alcohol use), interpersonal problems and health problems.

For those experiencing stress and burnout they are likely to feel less supported, struggle to identify risk situations, have less job satisfaction and feel more anxious about further challenging behaviour (Bromley & Emerson, 1995). This is not only significant for the staff member but may further negatively impact the therapeutic environment of a service (Edwards & Mittenberger, 1991; Hunter & Carmel, 1992; Rose & Rose, 2005).

1.16 Aims

As the literature review indicates, there has been relatively little research conducted to investigate healthcare professionals’ attitudes towards ID offenders, despite the huge impact that they may potentially have on all aspects of care. The current study aims to investigate what attitudes are held by staff towards challenging behaviour in ID offenders, in order to inform service provision. It is also hoped that through highlighting staff attitudes towards ID offenders, it will be possible to identify additional staff support needed, such as increased experience or additional training. Consequently there will be an

improvement in staff responsiveness, service provision and effectiveness of interventions.

The secondary aim was to investigate what factors appear to be related to these attitudes. Given the implication of various demographic factors in the formation of staff attitudes with ID, gender, age, level of qualification, training, and length of contact time with the client group were investigated as having a possible correlation with attitudes held for ID offenders.

EXTENDED METHOD

2. 1 Experimental versus non-experimental design

Experimental designs are often accepted as superior for research due to their power, efficiency and ability to investigate causal relationships (Ruane 2005). Authors often purport their high internal validity as they are able to eliminate extraneous factors or alternative explanations for outcomes (Stapleton, 2006; Ruane, 2005). However, the strengths of non-experimental design (i.e. cross-sectional or correlational) are often overlooked (Davidson, Redner, Amdur & Mitchell, 199). Although these designs do not necessarily prove causal hypotheses, non-experimental designs do allow for the exploration of association between a broad range of variables at one time.

Additionally non-experimental designs allow the study of interesting phenomena that are not amenable to experimental design (Polit & Beck, 2008), such as age and gender, which cannot be directly manipulated. Therefore the present study's design allows the predictor variables to be studied naturalistically. Non-experimental design also tends to have a strong realism and is very rarely criticised for lack of ecological validity (Polit & Beck, 2008).

2.2 Recruitment Sites

All participants were recruited from three independent hospitals for people with ID who display challenging behaviour and who have a forensic history. The first hospital had 317 staff working for them at the time of recruitment. This included

qualified nursing staff and support workers, as well as a multi-disciplinary team including clinical and forensic psychologists, psychology assistants, psychiatrists, occupational therapists, social workers and educational specialists. The other two hospitals had approximately 210 staff working across both sites at the time of recruitment. This staff team included qualified nursing staff, healthcare assistants, psychiatrists, clinical psychologists and educational specialists.

During the recruitment process, the first hospital underwent service-level reorganisation following a report from the Healthcare Commission that made several recommendations. This reorganisation included re-structuring of teams (with team leader roles now being held exclusively by qualified nurses) and personnel changes. Additionally there are future changes planned regarding the type of service offered and the nature of clients being admitted into the service.

2.3 Further Participant details

Forty-five participants were recruited from the first hospital whilst forty-six came from the other two hospitals combined (nineteen and twenty seven staff respectively). Of the participants recruited ten had no qualifications, thirty-two had GCSE's or equivalent, nineteen had A-levels or equivalent, sixteen had a first degree and eight had post-graduate qualifications. Of the remaining participants, five ticked the other box and one did not list their highest level of qualification.

Regarding level of training, ten reported they had received no training, twenty-six had limited training, thirty a fair amount, sixteen detailed and eight had received extensive training. One participant did not list their level of training. This level of training has been split by gender in the table 8 below.

Table 8: Participants level of training split by gender

Level of training	Males	Females
None	3	7
Limited	9	17
Fair Amount	19	11
Detailed	8	8
Extensive	4	4
Missing	1	0

The mean time since the last training participants received was 12.99 months (SD = 26.78). When asked if they had received enough training, thirty-seven participants thought they had, whilst fifty-one felt they had not had enough training, three participants did not reply. No participants felt they had received too much training.

Participants also reported their past experience and this was coded into experience of working with ID offenders, working with ID in general, experience working in a care setting and no relevant past experience. The number of participants with these different types of past experience can be seen in table 9 below.

Table 9: Participants' past experience split by gender.

Type of Past Experience	Males	Females
No relevant past experience	20	18
Experience of working in a care setting	19	15
Experience working in an ID setting	7	5
Experience working with ID offenders	6	6

Of the ninety-one participants, sixty-two now work as care/support workers (ten at the senior level), sixteen were nurses, three worked in education, one in social work, four in psychology, and four were managers. One participant did not list their occupation.

2.4 Exclusion criteria

2.4.1 Administrative/Clerical Role

Those working in a solely administrative/clerical or ancillary (i.e. domestic or maintenance) role were excluded from the study as they would have little or no clinical contact with the client group and they would therefore be less likely to experience challenging behaviour. A total of ten respondents were excluded on the basis of working in administration/clerical roles

2.4.2 Non-English speaking participants

Staff that could not read or write in English were excluded from the study due to no alternative forms of the CHABA or ERCB being available to the Chief Investigator at the time of recruitment, i.e. in other languages and they would therefore be unable to complete the distributed questionnaires. It was

anticipated to be unlikely that participants would be unable to understand written information in English due to the requirements of their job.

2.4.2 Bank staff

Bank staff were excluded from this study due to their relatively inconsistent hours, different work periods and possible experience working with different client groups. These additional factors could not be controlled for within the present analysis. Therefore it was decided that bank staff would be identified from their responses on the demographics questionnaire and not entered into SPSS for analysis. None of the returned questionnaires were completed by bank staff therefore no participants were excluded on this basis.

2.5 Participant Numbers

2.5.1 Statistical Power Analysis

Prior to collecting data a power calculation was conducted in order to assess the minimum number of participants that would be needed. Howell (1997) proposed that when using a multiple regression, the main statistical analyses currently being used, a minimum of 10 participants per predictor variable are required. As there are five possible predictor variables, this gave an initial estimated required sample size of fifty participants.

Following this initial estimation, a more detailed power and sample size calculation was completed using G*Power: Version 3.0.8 (Erdfelder, Faul & Butcher, 1996). This was calculated looking at the primary outcome measure,

the CHABA. To achieve a large effect size of 0.5 (Cohen's r) (Cohen, 1992), with a significance level of 0.05 and five predictor variables, a sample size of 32 was required. To achieve medium effect size of 0.3 (Cohen's r) (Cohen, 1992), with a significance level of 0.05 and five predictor variables, a sample size of 49 was needed to produce a power level of 0.8. Therefore a minimum sample size of 49 was sought.

2.5.2 Response Rate

Prior to conducting the research it was difficult to predict the number of participants that would consent to take part in the study. Given the above power calculation and the potential participant pool being estimated at approximately 550 at the time of recruitment, a return rate of 10% was required. Past research using the CHABA had seen a response rate of 60% (Hastings, 1997b). However that study involved different methodology to the current study (i.e. postal questionnaires). As the current study minimised the time and effort needed by participants by distributing and collecting questionnaires at the participants place of work, it was predicted that the response rate would be higher than this 60%.

At the time of recruitment the possible participant pool was 527 and in actuality, the response rate was 19.17%. Whilst this was above the required 10%, it was substantially lower than the 60% found in Hastings (1997b) study. The reasons for this lower response rate are not immediately clear although it is possible to hypothesise about explanations for this. Recent events at one of the sites (see extended paper 2.2) may have meant that staff feelings had become

heightened and they didn't feel confident or secure enough to report their feelings towards the client population. This was partially overcome by keeping all responses completely anonymous but it is possible that staff still felt reluctant to divulge their attitudes and feelings.

Alternatively, the low response rate may have been due to staff apathy and fatigue completing research questionnaires. Throughout the course of the research, the Chief Investigator became aware of several other studies being completed within the services. Whilst these did not directly impact upon the present study in any other way, it is possible that potential participants simply became fatigued completing questionnaires.

This could be overcome in any future research by increasing the amount of promotion of the research within the services and ensuring no other research was being conducted. Although the Chief Investigator did attend the sites and promote the research, this could have been done more extensively and for a longer period of time prior to beginning data collection.

2.6 CHABA

2.6.1 Development

Research investigating staff attributions of challenging behaviour has used a range of methodologies including self-report measures such as rating scales (Hastings et al, 1995b) and multiple choice questionnaires (Oliver et al, 1996) or using open ended questions with written responses (Berryman et al, 1994)

and direct interviews with care staff (Hastings, 1995). Hastings (1997b) noted that whilst these methodologies all had strengths and limitations, there was no clear established method for measuring staff attributions to challenging behaviour and highlighted the need for a flexible measure applicable for research and evaluation. Therefore he set about developing the Challenging Behaviour Attributions Scale (CHABA: Hastings, 1997b – see appendix two).

Hastings (1997b) developed the CHABA by adding items to a questionnaire used in previous research (Hastings et al, 1995; Hastings, Reed & Watts, 1997). This original questionnaire consisted of twenty five causal attributions and asked participants to rate these on a seven-point Likert scale. Hastings (1997b) expanded this to thirty-nine items on five attribution sub-scales: Learned Behaviour (8 items), Biological/Medical (9 items), Emotional (8 items), Physical Environment (8 items) and Self-Stimulation (6 items). Hastings (1997) does not give information about how these additional items were generated. These statements were then analysed using Item-analysis and any item correlating with the relevant sub-scale total score at $r < .30$ were removed. This created the final thirty-three item scale.

2.6.2 Subscales

The CHABA produces scores for five attributional subscales. The Learned Behaviour subscale related to ideas of behaviour being caused by reinforcement. It has two further subscales Learned Behaviour Negative and Learned Behaviour Positive which relate to negative reinforcement and positive reinforcement. In consideration of Attribution theory, such Learned Behaviour

attributions could be said to be internal to the individual displaying the behaviour and controllable, but are unstable as they can change.

The Biomedical subscale relates to internal medical or biological reasons for challenging behaviour. These could be said to be internal, uncontrollable and stable attributions. The Emotional subscale attributes challenging behaviour to affect states of the individual, which could be said to be internal and uncontrollable but unstable as they can change.

The Physical Environment subscale looks to aspects of the environment to explain challenging behaviour. These attributions are external to the individual and could be argued are somewhat stable. Lastly the Stimulation subscale relates to the idea of challenging behaviour being displayed because individuals are seeking stimulation. These attributions could be said to be internal to the individual and are controllable by the individual.

2.6.3 Limitations of the CHABA

A number of limitations have been levelled at the CHABA including its reliance upon vignettes to describe challenging behaviour (McCausland, Grey, Wester & McClean, 2004; McGill, Bradshaw & Hughes, 2006), as reported attitudes and attributions tending to be much weaker for vignettes than those reported for real-life challenging behaviour (Lucas, Collins & Langdon, 2009). The present study hoped to overcome this limitation by not providing participants with a vignette of challenging behaviour and instead allowing them to think about their own real-life experience of challenging behaviour.

Grey, McClean and Barnes-Holmes (2002) also identified a number of additional limitations. They noted that the items included in the CHABA only represented a narrow band of variables that could be involved as antecedents or setting events for challenging behaviour. They give the example of the Physical Environment sub-scale which only incorporates environmental pollutants (such as lights, crowds and noise, etc) but doesn't incorporate variables such as lack of interaction and choice or unpredictable activities. Grey et al (2002) also propose that the scale lacks content validity, as whilst the Learned Behaviour Positive sub-scale should represent attributions related to positive reinforcement, they may actually represent participants' judgements of intentionality of the behaviour. However, alternative studies have proposed that the CHABA does have good content validity (Kozub, 2002; Hastings, 1997b).

2.7 ERCB details

The ERCB (Mitchell & Hastings, 1998) was developed by identifying a range of emotions from past literature that may result in challenging behaviour. This was then tested on eighty-three care staff from twenty-three community residences. Factor analysis and further item analysis was then conducted to produce the final version of this scale.

A copy of the ERCB is contained within appendix three.

2.8 Justification of Measures:

There is limited research on ID offenders and a lack of availability of measures specifically designed for this population. Therefore questionnaires used to measure attitudes towards challenging behaviour within ID populations were reviewed for use in the current study. The CHABA and ERCB were chosen for their proven record of being flexible tools in both research and practical contexts and their consequent applicability across a wide-range of settings (Hastings & Remington, 1995; Hastings, 1997b, Campbell, 2007). The literature review identified that attitudes consist of both cognitive and affective components. Therefore using both measures allowed each component to be assessed and the exploration of relationships between attributions and emotional attitudes in accordance with Attribution Theory.

Alternative measures such as the Attitudes to People with Challenging Behaviour scale (APCB: Bell & Espie, 2002) were considered for the study. However, this scale was relatively under-developed and lacked the volume and breadth of research or established reliability, validity and applicability that the CHABA or ERCB showed. The Attributional Style Questionnaire (ASQ; Peterson & Villanova, 1988; Peterson et al, 1982) was considered. This broader measure of attributions had been adapted for use with people with ID, but was rejected due to the inconsistent findings regarding its psychometric properties (Rose & Rose, 2005; Williams & Rose, 2007).

Additionally measures such as the Self-injury Questionnaire (SUBQ: Oliver et al, 1996) were considered but were rejected due to the specific nature of the

challenging behaviour they measured, i.e. self-injury. The present study is interested in reactions to challenging behaviour in its broadest definition, incorporating self-injury alongside physical aggression, property damage, sexually inappropriate acts and other behaviour that challenges.

2.9 Demographic Questionnaire

The demographic questionnaire was developed by the Chief Investigator. The questionnaire included items on staff characteristics that were identified within the earlier literature review as possibly influencing staff attitudes. Items were also included to assess inclusion and exclusion criteria. Some of the response categories were based upon past research, such as the training responses based upon Hastings (1997b), this was to enable easier comparison of results to past research.

A copy of the demographic questionnaire is contained in appendix four.

2.10 Social Desirability Measures

Given the nature of the attitudes currently being investigated it was identified that participants may attempt to mediate their responses in order to project more socially desirable or favourable images of themselves (Johnson & Fendrich, 2002). Therefore consideration was given to including a measure of social desirability, such as the Marlowe-Crowne Social Desirability Scale (Crowne-Marlowe, 1960). This has been widely used within self-report research to control for response bias. However, studies have shown only weak evidence

that this and similar scales are able to identify participants who are and are not willing to report socially undesirable information (Johnson & Fendrich, 2002). Therefore use of such scales in research as a control for response bias has not only been called into doubt (Johnson & Fendrich, 2002) but overtly discouraged on “empirical and conceptual grounds” (Barger, 2002, pg. 286). Consequently such a scale was not used in the present study.

Alternative steps were taken in order to account for some of the potential response bias. All responses were completely anonymous, allowing participants to be free from consideration of how socially desirable their responses were. Additionally the Emotional Reaction to Aggressive Challenging Behaviour Scale has been correlated with a social desirability scale, which indicated that respondents were unlikely to be influenced by social desirability (Mitchell & Hastings, 1998). However, given the previous discussion about these social desirability scales this finding cannot be accepted with any degree of confidence.

2.11 Ethical Approval

2.11.1 Ethical Considerations for participants

It was not anticipated that participants within the study would be directly harmed in any way from the research. The measures used were not anticipated to elicit any distress in participants and participants were free to refuse to take part in the study if the subject matter was difficult for them. The nature of the study was clearly stated in the participant information sheet (see appendix five) so

participants were fully aware of this before they looked at the measures. In the event that participants did have any concerns about their participation in the study or the subject matter, they were encouraged to talk to their line manager or to contact the Chief Investigator. No participants sought advice or raised concerns with the Chief Investigator during the course of the study.

Participants were also told on the information sheet that they were free to leave the study at any time. However, because data collected was anonymous and was not individually identifiable, it was not possible for participants to withdraw any data they had already provided. Again this was explicitly stated on the participant information sheet.

2.11.2 Local NHS Research Ethics Committee (NRES)

Following the application for NRES approval to the Leicestershire, Northamptonshire and Rutland Committee 1 on 29th December 2008, the application was discussed in a committee meeting on 6th February 2009. The committee responded with a provisional favourable opinion. However, requested several changes to the proposal and clarification on some of the background information.

The committee requested that consent forms were not used during the study to ensure anonymity of participants, arguing that returning the questionnaires was consent in itself. Therefore no consent forms were used within this study. The committee also queried what action would be taken if there was a poor participant response rate. The Chief Investigator responded to this by stating

that meetings would be attended during the course of the study to encourage participants to complete questionnaires and also to allow any additional participant queries or concerns to be addressed. In addition the committee requested some small changes to the wording of the participant information sheet; including directing participants to their line managers or the Chief Investigator should they have any concerns or complaints arising from their participation in the study.

The revisions and clarifications were discussed at a meeting of the sub-committee on 8th April 2009. The sub-committee responded with a final favourable opinion. Confirmation of this was received by the Chief Investigator on the 18th April 2009.

2.11.3 University Ethics Committee

Following the application to the University of Lincoln's Psychology Faculty Ethics Committee on 24th April 2009, a provisional response was received by the Chief Investigator on the 6th June 2009. The reviewers reported no major concerns regarding the research. However, they raised concerns that participants were unable to withdraw data once submitted due to the total anonymity of the study.

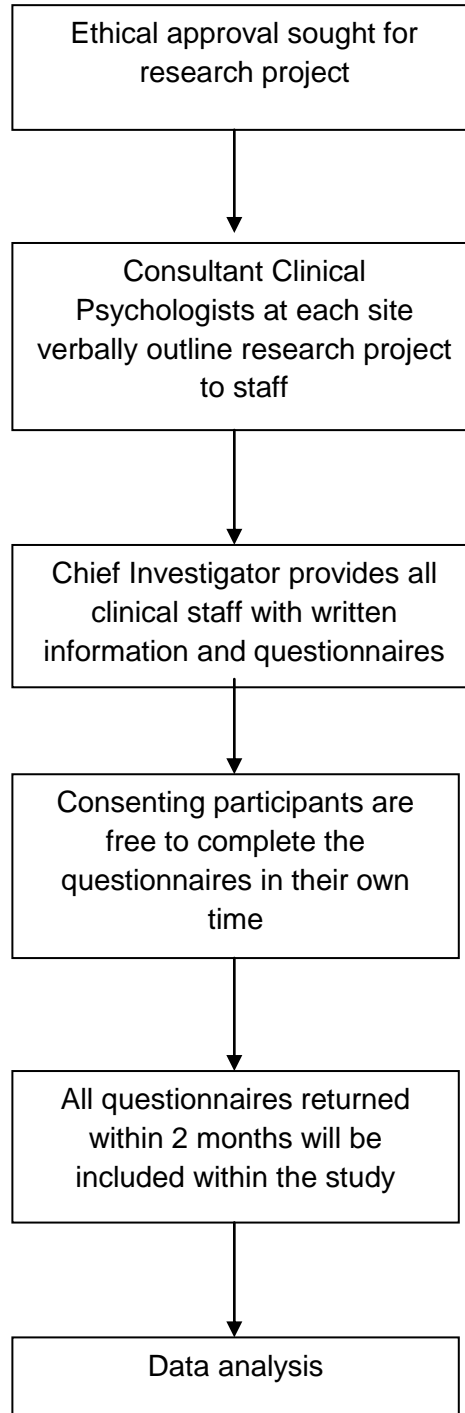
The Chief Investigator responded to the committee, commenting that anonymity was felt to be the most pertinent issue for participants, more so than their ability to withdraw data. It was noted that the inability to withdraw data was explicitly stated in the participant information sheet and therefore participants were able

to make an informed decision about whether they wished to participate. A final favourable decision was received from the University Ethics Committee on 17th June 2009.

2.12 Procedural Flowchart

The flowchart below in figure 3 outlines the procedure for the current study.

Figure 3: Procedural Flowchart



2.13 Assumptions for Parametric Testing

Parametric tests are those statistical tests which require certain assumptions to be met in order to be conducted. They can be said to be preferable over nonparametric statistics because they have greater statistical power and more likelihood of detecting statistically significant results (Reber, 1995). As discussed in Field (2009), there are four assumptions that need to be met in order to use parametric tests accurately; namely (1) normally distributed data, (2) homogeneity of variance, (3) interval level data, and (4) Independence.

2.13.1 Normally distributed data

Normal distribution is the “theoretically expected probability distribution when...samples are drawn from an infinite population in which all events are equally likely to occur” (Reber, 1995, p. 221). There are various ways to assess the normal distribution of data, firstly looking at their distribution on histograms. On histograms normally distributed samples would typically display the bell-shaped curve (Reber, 1995). Histograms for each of the continuous predictor and dependent variables can be found in appendix six. Initial inspection of these indicated that there may be some variables that are not normally distributed.

Kolmogorov-Smirnov Test: However, assessing normality from histograms alone is not sufficient as this is a subjective judgement (Field, 2009). Therefore, a Kolmogorov-Smirnov test for normality was also conducted. This found that only the demographic variable age; CHABA subscales Learned Behaviour, Physical Environment and Stimulation; and the ERCB subscale

Depression/Anger were not significant. This meant that the other ten variables were significant and therefore not normally distributed.

However, Field (2009) states that when dealing with larger samples Kolmogorov-Smirnov tests are very likely to produce significant results even if variables are normally distributed. A larger sample is noted as being approximately 100 (Field, 2009). Given the present sample size of 91, it is possible that this is true in this case. Therefore normality was also assessed using Z-scores.

Z-scores for Normality: Skewness and kurtosis scores can be converted into z-scores by subtracting the mean of the distribution (for this case zero) and dividing by the standard deviation of the distribution (standard error can be used for this case) (Field, 2009). This equation was completed for each of the predictor and independent variables, the results of which can be seen in table 12 below. Z-scores above 1.96 is significant at $p < 0.05$ (Field, 2009).

As can be seen the majority of variables are normally distributed. However, Experience is both positively skewed and has positive kurtosis and qualification is positively skewed.

2.13.2 Outliers:

One way of addressing non-normally distributed data is to address the issue of outliers in the data. To identify outliers in the current variables box-plots were produced (see appendix seven). These identified four outliers on the

Table 10: converted z-scores for skewness and kurtosis for all variables

		Z-score
Age	Skewness	1.06
	Kurtosis	-1.75
Qualification	Skewness	2.343*
	Kurtosis	0.821
Experience	Skewness	8.319***
	Kurtosis	12.285***
Training	Skewness	0.850
	Kurtosis	-1.173
Learned Behaviour	Skewness	-0.47
	Kurtosis	-1.07
Biomedical	Skewness	-0.63
	Kurtosis	0.47
Emotional	Skewness	0.88
	Kurtosis	-1.33
Physical Environment	Skewness	-0.63
	Kurtosis	-0.73
Stimulation	Skewness	0.5
	Kurtosis	0.29
ERCB Negative	Skewness	0.75
	Kurtosis	-0.41
ERCB Positive	Skewness	1.121
	Kurtosis	1.693

* Significant at $p < .05$

** Significant at $p < .01$

*** Significant at $p < .001$

Experience variable, one outlier on the Biomedical variable, one outlier on the Emotion variable and one outlier on the Stimulation variable.

Outliers on the Experience subscale were first addressed as this was not normally distributed. Field (2009) recommends a number of things that can be

done to data to reduce the impact of outliers. Firstly the case can be removed from the analysis completely. However, Field (2009) recommends this only if there is reason to believe that the case is not from the desired population. There was no reason to suspect this in the current case; therefore this method was not used.

Alternatively data can be transformed. A number of transformations were attempted, including square root transformation and log transformation. However, these did not result in experience being normally distributed. Given that transformations need to be applied to all data, therefore impacting significantly on data collected, and as it still does not result in normal distribution, this method of dealing with outliers was not used.

The last option is to replace the score with either the next highest score plus one, or with the Z-score plus 2 or 3 standard deviations. Each of these options was attempted. Although none of these options meant that Experience was normally distributed, replacing the outliers with Z-score and 2 standard deviations brought it within the closest limits. Therefore this method was used for dealing with outliers. This method was also used to deal with outliers on Biomedical and Stimulation variables.

2.13.3. Conclusion:

Due to the fact that some of the variables are not normally distributed it was decided that a non-parametric correlational design (i.e. Spearman's Rho) would be conducted.

2.14. Missing Data

When entering data into SPSS any missing values were coded (as 3000) to allow SPSS to detect these missing values. In all the analyses being conducted, missing data has been dealt with using listwise deletion. This means that any participant with a missing value for any variable is excluded from the whole analysis. Listwise deletion is often said to be preferable to pairwise deletion, providing that the sample size is large, as it is more likely to provide unbiased parameters than alternatives such as pairwise deletion (Howell, 2009). As listwise deletion did not result in the minimum sample size of 49 being breached it was felt that this method would be appropriate to employ.

2.15. Point-Biserial Correlations

If a variable is categorical then they can still be entered into a correlation analysis by converting them to a biserial or point-biserial correlation (Field, 2009). Within the present study, gender has been measured as a categorical variable (male/female). Whilst it could be argued that gender exists along a continuum (including transgender, hermaphrodites, etc), within popular Western ideology it would be classified as a discrete dichotomous variable (Lord, 1992) and therefore has been treated as such in the present analysis. Such discrete dichotomies should be converted to point-biserial correlation coefficients (Field, 2009). SPSS converts such discrete categorical variables automatically and therefore correlation coefficients can be retained but reported as r_{pb} .

2.16. Bonferroni Correction

Difficulties arise when undertaking multiple comparisons as the probability of achieving a significant result by chance increases, e.g. a Type I error (Zaykin, Zhivotovsky, Westfall & Weir, 2002). One solution to this problem is the reduction of the significance level (α -level). Bonferroni corrections are one of the most widely employed statistical corrections for this (Cabin & Mitchell, 2000). The original Bonferroni adjustment involved dividing the alpha level by the number of comparisons being conducted to provide a new alpha level that comparisons must be less than in order to be statistically significant (Nakagawa, 2004). Alternative sequential Bonferroni procedures were introduced by Holm (1979) and Hochberg (1988).

There is currently no formal consensus for when Bonferroni adjustments should be made and there is considerable evidence that Bonferroni adjustments are associated with serious problems (Nakagawa, 2004; Moran, 2003), providing far too conservative results (Moss, 2009; Foster & Stine, 2008). The Bonferroni procedures (including the alternative sequential procedures) are associated with a considerable reduction in the statistical power of rejecting an incorrect null hypothesis and therefore creating an “unacceptably high” probability of making a Type II error (p. 1044, Nakagawa, 2004).

Perneger (1998) examined the difficulties associated with Bonferroni adjustments. Citing the fact that they seek to address the universal null hypothesis (i.e. that the null hypothesis is true for *all* variables) which is of no interest to the researcher who is more concerned with addressing each variable

individually. Additionally Perneger states that Bonferroni corrections defy common sense and increases the probability of Type II errors, therefore should not be used without careful consideration. Rather he recommends simply describing what was done and why, enabling the reader to reach a reasonable conclusion without employing Bonferroni adjustments.

There are also wider concerns associated with the use of Bonferroni adjustments, with researchers making the illogical conclusion that passing the rigour of such an adjustment increases the significance of their results (Cohen, 1990, 1994). The wide use of Bonferroni adjustments also leads to publication biases, with researchers increasingly likely to avoid publishing non-significant results as these may make their significant results insignificant when passed through Bonferroni corrections (Nakagawa, 2004). In essence the more complex a piece of work conducted, the more likely the results will be found to be non-significant following Bonferroni correction, therefore the researcher is “punished” for conducting more work (Moran, 2003). This goes against the idea that detailed studies of complex and diverse phenomena should be encouraged (Moran, 2003).

Given the difficulties associated with Bonferroni adjustments, it was decided that no such correction would be made in the current analyses. Whilst this does increase the possibility of a Type I error, it can be argued that this should not be of considerable concern, as any spurious results would not be confirmed in future experiments (Moran, 2003). Rather than employ such procedures it is

proposed that provided results are reported in detail, readers can judge the accuracy of the results (Nakagawa, 2004).

2.17. Regression assumptions

Although some of the variables did not meet the assumptions needed for parametric correlational testing, they can still be entered into a parametric regression analysis (Field, 2009; Dancey & Reidy, 2002). However, prior to completing regression, a further set of assumptions must be met. These are detailed in Dancey and Reidy (2002) and are considered individually below.

2.17.1 Adequate numbers of participants

Within *multiple* regressions, if the sample does not have an adequate number of participants then results may not be generalisable, Dancey and Reidy (2002) recommend a minimum of 15 participants be entered for every variable. Eighty six participants were entered in to the Learned Behaviour Negative regression model (3 predictor variables need a minimum of 45 participants) and 86 participants in to the Stimulation regression model (2 predictor variables need a minimum of 30 participants). As can be seen the number of participants is notably higher than the recommended 15 and therefore this assumption can be upheld.

2.17.2 Normally distributed errors

Normal distribution was assessed post-hoc by viewing the histograms produced by SPSS plotting the frequency of standardised residuals. These graphs can be

seen in appendix eight. Viewing these graphs shows that all regression models have normally distributed errors and therefore this assumption can be upheld.

2.17.3 Linearity

The assumption of linearity was assessed post-hoc by viewing the graphs produced by SPSS for each regression model, which plotted the Standardised Residuals against the Standardised Predicted Values. These graphs can be seen in appendix nine. If linearity is to be assumed then the values should appear randomly distributed around zero, with funnelling or curving (Field, 2009). As can be seen from the graphs, linearity can be assumed for all the regression models.

2.17.4 Outliers

The assumption of outliers was already addressed within the correlation analysis assumptions. However, a further post-hoc test of outliers or extreme cases was conducted. SPSS produces a table called casewise diagnostics for each regression model which highlights those cases with standardised residual scores above 2 [standard deviations from the norm]. It is deemed to be acceptable to have 5% of scores outside of these limits (Field, 2009). Table 13 below shows the percentage of scores outside of these limits for each regression model.

Table 11: Percentage of standardised residuals outside acceptable limits

Outcome Variable	Predictor Variables	Percentage of Z-scores outside limits
Learned Behaviour	Training	2.3%
Learned Behaviour Negative	Age, Experience, Training	3.5%
Biomedical	Gender	3.4%
Stimulation	Gender, Experience	4.7%
ERCB: Fear/Anxiety	Qualification	3.4%
ERCB Negative	Learned Behaviour, Biomedical, Physical Environment	3.4%
ERCB: Depression/Anger	Learned Behaviour, Biomedical	5.7%
ERCB: Fear/Anxiety	Biomedical, Physical Environment	3.4%

The only regression model of concern is ERCB: Depression/Anger which has 5.7% of cases outside of the expected limits. However, as this is less than 1% of what we would expect, and as none of the cases have standardised residuals above 2.5 standard deviations from the norm, then the case can continue to be investigated with confidence (Field, 2009) and the assumption upheld.

2.17.5 Multicollinearity

Predictor variables should not correlate highly with one another, namely they should not have multicollinearity (Dancey & Reidy, 2002). Variables with a correlation of $r < .8$ and above are said to have multicollinearity (Dancey & Reidy, 2002). None of the predictor variables have correlations of $r < .8$ therefore this assumption can be upheld.

Tests for Multicollinearity were also conducted for each regression model separately post-hoc, which can be seen on table 14 below. Any VIF score

above 10 and any Tolerance score of below 0.2 is of concern (Field, 2009). As can be seen, none of the regression models meet these criteria; therefore this assumption can be upheld with confidence.

Table 12: VIF and Tolerance Scores for each Regression models.

Outcome Variable	Predictor Variables	VIF score	Tolerance Score
Learned Behaviour	Training	1.000	1.000
Learned Behaviour Negative	Age	1.232	0.812
	Experience	1.358	0.736
	Training	1.171	0.854
Biomedical	Gender	1.000	1.000
Stimulation	Gender	1.000	1.000
	Experience	1.000	1.000
ERCB: Fear/Anxiety	Qualification	1.000	1.000
ERCB Negative	Learned Behaviour	0.692	1.444
	Biomedical	0.465	2.151
	Physical Environment	0.506	1.975
ERCB: Depression/Anger	Learned Behaviour	1.404	0.712
	Biomedical	1.404	0.712
ERCB: Fear/Anxiety	Biomedical	1.931	0.518
	Physical Environment	1.931	0.518

2.17.5 Independent Errors

In addition to the above, Field (2009) highlights a further assumption, i.e. the need for independent errors. This was assessed post-hoc for each regression model using a Durbin-Watson Test. The results of this can be seen in table 15 below:

Table 13: Durbin-Watson test for each regression model

Outcome Variable	Predictor Variables	Durbin-Watson Test
Learned Behaviour	Training	2.071
Learned Behaviour Negative	Age, Experience, Training	1.955
Biomedical	Gender	2.159
Stimulation	Gender, Experience	2.273
ERCB: Fear/Anxiety	Qualification	1.734
ERCB Negative	Learned Behaviour, Biomedical, Physical Environment	1.758
ERCB: Depression/Anger	Learned Behaviour, Biomedical	1.830
ERCB: Fear/Anxiety	Biomedical, Physical Environment	1.745

When interpreting the Durbin-Watson test, any scores below 1 or greater than 3 are of concern (Field, 2009). As none of the above scores fit this criterion then this assumption can be said to have been met.

2.17.6 Conclusion

As all of the above assumptions were met it was deemed appropriate to use a regression analysis.

2.18 Type of Regression used

The Regression method used was a Forced Entry model. This involved entering all variables simultaneously into the model. It has been proposed that this is the most appropriate method for regression (Studenmund & Cassidy, 1987; Abrams, 1992). Alternative step-wise methods are subject to the influence of random variations in the data and therefore replicability of their results is limited (Field, 2009; Field, 2008). Therefore the Forced Entry method was deemed the most appropriate.

As the Forced Entry method enters all variables simultaneously, the inclusion of predictor variables has to be considered very carefully and only ones with good reasons for inclusion should be (Field, 2009). Therefore only predictor variables that were significantly correlated with the outcome variable were entered into the regression models. As not all the outcome variables had significant predictor variables associated with them, regression analysis was not conducted for these variables.

EXTENDED RESULTS

3.1 Descriptive Statistics for CHABA scores

In addition to the mean scores and standard deviations, CHABA scores were also analysed to deduce the number of attributional explanations that participants accepted out of the five possible subscales. The results of this can be found in table 10 below.

Table 11 below shows the percentage of participants that accepted, rejected or responded neutrally for each individual subscale (including the two further subscales for Learned Behaviour).

Table 14: Number of Attributional Subscales accepted by participants

Number of Attributional subscales accepted	Frequency	Percent
0	0	0.0
1	0	0.0
2	10	11.0
3	12	13.2
4	14	15.4
5	51	56.0
Missing Values	4	4.4

Table 15: Percentage of participants accepting subscales of the CHABA

	Percentage accepting	Percentage neutral	Percentage rejecting
Learned Behaviour	97.75	1.12	1.12
Learned Behaviour Positive	97.75	1.12	1.12
Learned Behaviour Negative	80.90	10.11	8.99
Biomedical	75.00	3.41	21.59
Emotional	100.00	0.00	0.00
Physical Environment	65.91	5.68	28.41
Stimulation	78.41	10.23	11.36

3.2 Regression Analyses: Demographic Predictor variables and CHABA/ERCB outcome variables

3.2.1 *Learned Behaviour regression*

A linear regression was conducted to determine the effect of training on the strength of Learned Behaviour attributions. The correlation coefficient was $R = .162$ and $R^2 = .026$. This regression model was not significant ($F = 2.319$, $p = .131$).

3.2.2 Learned Behaviour Negative Regression

Secondly a multiple regression was conducted for learned behaviour negative and the effect of all the significantly correlated predictor variables, namely Age, Experience and Training. The Multiple correlation co-efficient for the regression was $R=.162$, $R_2 = .106$, which indicated that 10% of the variance found in Learned Behaviour Negative can be accounted for by these three predictor variable. The adjusted $R_2 = .073$ is very similar to the initial R value, therefore indicating that the model's estimate of accounted variance is generalisable to the wider population.

As discussed in the journal article results section, the model significantly predicts the outcome variable from the three predictor variables ($F=3.232$, $p<0.05$) and this is a better prediction than would be found from using the mean of the outcome variable. The current model also tells us what degree each predictor variable affects the outcome variable. Each predictor variable is considered individually below:

Age ($b = 0.010$; $\beta = 0.166$): This value indicates that for every one unit increase in age (i.e. one month), the Learned Behaviour Negative score will increase by 0.01. This interpretation is dependent upon the effects of training and experience being held constant. Age alone was not a significant predictor of Learned Behaviour Negative scores ($t = 1.432$, $p = 0.156$).

Experience ($b = 0.000$; $\beta = 0.001$): This value indicates that experience alone is not predictive of Learned Behaviour Negative scores, as increases in

experience do not lead to increases in the Learned Behaviour Negative score. This interpretation is dependent upon the effects of age and training being held constant. Experience alone was not a significant predictor of Learned Behaviour Negative scores ($t = 0.144$, $p = 0.886$).

Training ($b = 0.143$, $\beta = 0.234$): This value indicates that for every one unit increase in training (i.e. on the scale from no training to extensive training); the Learned Behaviour Negative score will increase by 0.143. When converted into standard scores, for every one standard deviation increase in training, Learned Behaviour Negative score increased by 0.234 of a standard deviation. This interpretation is dependent upon the effects of age and experience being held constant. Training was found to be a significant predictor of Learned Negative scores ($t = 2.068$, $p < 0.05$).

3.2.3 Biomedical Regression

Thirdly a linear regression was conducted for Biomedical scores and the significantly correlated predictor variable Gender. The correlation co-efficient for the regression was $R = .258$. $R^2 = .067$, which indicated that 7% of the variance found in Biomedical scores can be accounted for by gender. The adjusted $R^2 = .056$, this is very similar to the initial R^2 value, therefore indicating that the model's estimate of accounted variance is generalisable to the wider population.

As discussed in the journal article results section, the model is significant ($F = 6.131$, $p < 0.05$) and this is a better prediction than would be found from using

the mean of the outcome variable. Gender's predictive value of Biomedical scores was considered ($b = 0.340$; $\beta = 0.258$). This value indicates that the Biomedical score increases by 0.34 (0.26 of a standard deviation) from males to females.

3.2.4 Stimulation Regression

Lastly, a multiple regression was conducted for Stimulation and the effect of significantly correlated predictor variables, Gender and Experience. The Multiple correlation co-efficient for the regression was $R = .308$. $R^2 = .095$, which indicated that 10% of the variance found in Stimulation scores can be accounted for by gender and experience. The adjusted $R^2 = .073$ is very similar to the initial R^2 value, therefore indicating that the model's estimate of accounted variance is generalisable to the wider population.

As discussed in the journal article results section, the model significantly predicts the outcome variable from the two predictor variables ($F = 4.364$, $p < 0.05$) and this is a better prediction than would be found from using the mean of the outcome variable. The current model also tells us what degree each predictor variable affects the outcome variable. Each predictor variable is considered individually below:

Gender ($b = 0.281$; $\beta = 0.220$): This value indicates that the Stimulation score increases by 0.281 from males to females. This interpretation is dependent upon the effects of training and experience being held constant. Gender alone was a significant predictor of Stimulation scores ($t = 2.108$, $p < 0.05$).

Experience ($b = 0.002$; $\beta = 0.001$): This value indicates that for every one unit increase in experience (i.e. months), the Stimulation score will increase by 0.002. When converted into standard scores, for every one standard deviation increase in experience, Stimulation scores increased by 0.001 of a standard deviation. This interpretation is dependent upon the effects of age and experience being held constant. Experience was deemed to be a significant predictor of Stimulation scores ($t = 2.034$, $p < 0.05$).

3.2.5 ERCB: Fear/Anxiety Regression

A linear regression was conducted to determine the effect of Qualification on ERCB Fear/Anxiety score. The correlation coefficient was $R = .166$ and $R^2 = .028$. This regression model was not significant ($F = .120$, $p = .120$).

3.3 Regression Analyses: CHABA Predictor variables and ERCB outcome variable

3.3.1 ERCB Negative

A multiple regression was conducted for ERCB negative scores and the effect of all significantly correlated predictor variables, namely Learned Behaviour, Biomedical, and Physical Environment. The multiple correlation coefficient for the regression was $R = .292$ and $R^2 = .085$. This regression model was not significant ($F = 2.574$, $p = .059$).

3.3.2 ERCB: Depression/Anger

A multiple regression was conducted for ERCB Depression/Anger scores and the effect of all significantly correlated predictor variables, namely Learned

Behaviour, and Biomedical. The multiple correlation coefficient for the regression was $R = .242$ and $R^2 = .058$. This regression model was not significant ($F = 2.601$, $p = .080$).

3.3.3 ERCB: Fear/Anxiety

Lastly, a multiple regression was conducted for ERCB Fear/Anxiety and the effect of all the significantly correlated predictor variables, namely Biomedical and Physical Environment. The multiple correlation co-efficient for the regression was $R = .277$. $R^2 = .077$, which indicated that 7% of the variance found in ERCB Fear/Anxiety can be accounted for by these two predictor variables. The adjusted $R^2 = .055$, this is very similar to the initial R^2 value, therefore indicating that the model's estimate of accounted variance is generalisable to the wider population.

As discussed in the journal article results section, the model significantly predicts the outcome variable from the three predictor variables ($F = 3.540$, $p < 0.05$) and this is a better prediction than would be found from using the mean of the outcome variable. The predictive value of each predictor variable is considered individually below:

Biomedical ($b = 0.880$; $\beta = 0.232$): This value indicates that for every one unit increase in Biomedical score Fear/Anxiety scores will increase by 0.88. This interpretation is dependent upon the effects of Physical Environment being held constant. Biomedical scores alone were not a significant predictor of Fear/Anxiety scores ($t = 1.600$, $p = 0.113$).

Physical Environment ($b = 0.213$; $\beta = 0.061$): This value indicates that for every one unit increase in Physical Environment score, Fear/Anxiety scores will increase by 0.213. This interpretation is dependent upon the effects of Biomedical being held constant. Physical Environment alone was not a significant predictor of Learned Behaviour Negative scores ($t = 0.419$, $p = 0.676$).

3.4 Post-Hoc Analyses

A number of analyses have been conducted to support discussion in the extended paper. A correlation was conducted between the number of attributions made and the level of training participants received. This correlation was not significant ($r = .144$, $p = .092$). A further correlation between the number of attributions made and level of experience was not significant ($r = .101$, $p = .178$).

The mean and standard deviations on the ERCB negative subscales was compared with that from previous studies and can be seen on table 16 below:

Table 16: Mean and Standard Deviation scores on the ERCB for past and present studies.

	Hastings & Brown (2002)	Mitchell & Hastings (1998)	Present Study
ERCB Negative	11.49 (6.37)	10.20 (-)	12.75 (5.74)
Depression/Anger	7.82 (4.58)	6.87 (4.79)	8.07 (3.94)
Fear/Anxiety	3.67 (2.36)	3.33 (2.54)	4.72 (2.49)

Additionally a correlation was conducted between age, experience and training. These all showed significant correlation, the results of which can be found in Table 17 below:

Table 17: Intercorrelations (Spearman's Rho) for age, experience and training

	Age	Experience	Training
Age	1.00	.46**	.23*
Experience	.46**	1.00	.33**
Training	.23*	.33**	1.00

* Significant at $p < .05$

** Significant at $p < .01$

EXTENDED DISCUSSION

4.1 Exploratory Analyses: CHABA

The results that staff hold numerous causal attributions, is in itself a positive finding, indicating that staff can be flexible in their thinking about challenging behaviour and are not limited to fixed cognitive patterns. However, further discussion can be found later (extended paper 4.6.4) regarding the impact of the number of attributions being made.

Possible reasons for staff holding numerous attributions were explored. One hypothesis was that staff working with this client group are often given a relatively large amount of training regarding behavioural management. Specifically all staff at the sites should receive training within their induction at the sites and may also have undergone such training in past roles (either working with ID or ID offenders). This appears to be happening in the most part, as only ten out of the ninety-one participants (11%) had no training at all.

Such training often focuses on increasing staff's ability to use Learned Behaviour causal attributions to explain challenging behaviour (Grey et al, 2002; Berryman et al, 1994). Because this is often not a causal attribution held prior to training, it is possible that by doing so, staff are learning new causal attributions whilst also retaining other causal attributions, therefore increasing the number of attributions they hold.

This was partially investigated by looking at the correlation between the amount of training received and the number of attributions staff made. Although there was no significant correlation for this particular group (see extended results section 3.10) the number of attributions was significantly positively skewed, meaning that there was a limited amount of people with a low number of attributions for comparison. As past research has found an increase in the number of causal attributions held post-training (Grey et al, 2002) it would be interesting to investigate this hypothesis further. This could be done through the use of a control group of staff who either don't work within this client group (and therefore do not receive such specific training) and/or by using comparison groups of staff working with ID offenders and comparing their number of causal attributions both pre and post training.

Of the attributions being made, as discussed in the Journal paper, participants are most likely to make Emotional and Learned Behaviour attributions. This is consistent with previous findings (Grey et al, 2002; Hastings, 1995) whereby staff are most likely to make intentional rather than situational attributions.

4.2 Exploratory Analyses: ERCB

The results found appear to reflect the disparities in attitudes shown towards ID offenders identified earlier in this report. Staff clearly show high levels of negative emotions, however, staff also show positive emotions when dealing with challenging behaviour, identifying with such feelings as confidence, invigoration and happiness in their ability to respond to challenging behaviour.

This is in contrast to past literature from ID populations which has rarely found any positive attitudes reported towards challenging behaviour (Hastings & Brown, 2002). However, it is consistent with ID offender research (e.g. Seaward & Rees, 2001) that has found individuals can display both positive and negative attitudes.

As discussed in the introduction (extended paper 1.16) extreme positive or negative attitudes can have significant implications including inadequate risk management (Reed et al, 2004), restrictive behaviour management (Tenneij & Koot, 2008; Reed et al, 2003), poor service provision (Holland et al, 2002) and detrimental effects on staff (Jones & Hastings, 2003). The current group of staff have reported both positive and negative emotional attitudes, but not to the extreme. This indicates that such implications of extreme attitudes will not be experienced by this group. .

As past research using this measure has only been concerned with negative attitudes, it is only possible to make a direct comparison regarding these negative attitudes. The level of negative attitude displayed is concurrent with past research (see extended paper section 3.10) although the present sample does report minimally more negative emotions than previously studies.

4.3 Research Question 1: Demographic Correlations to CHABA

4.3.1 Experience and Stimulation

As staffs' level of experience increases it could be supposed that they will learn more about challenging behaviour, witness different typologies and contexts to challenging behaviour, and receive input from different professionals within the multi-disciplinary team (MDT). Given this, it could be hypothesised that staff would learn more explanatory models for challenging behaviour as their experience increases. Therefore we would expect experience to be significantly correlated with all the attribution subscales of the CHABA. However, not only were the number of causal attributions not correlated with experience (see extended results section 3.10) only the Stimulation attribution was significantly correlated with experience.

To explain why only Stimulation attributions are correlated with experience, the nature of ID services needs to be explored. As has been highlighted in the literature on ID services (DH, 2001), they can often be under-resourced and lacking environmental stimulation. As discussed previously these problems become even more tangible within forensic services for ID populations as the need to provide a therapeutic and stimulating environment competes alongside a need for security (Long et al, 2008). Therefore the stimulation available for individuals may be limited. As staffs' experience increases, so to may their exposure to such stimulatory deprivation, consequently they may make more stimulation attributions to explain challenging behaviour.

This could be further investigated by including a questionnaire assessing staff's feelings and attitudes towards the environment itself to see if there was a correlation between experience and attitudes to the environment. Alternatively an inductive methodology could be used such as grounded theory or thematic analysis, to explore alternative hypotheses. This could also be used to explore possible hypotheses on why the other attribution models are not significantly correlated with Stimulation.

4.3.2 Gender with Stimulation and Biomedical

This finding indicates that women are more likely to hold attributions related to Stimulation and Biomedical causes. These attributional styles place the cause for challenging behaviour outside of the individual's control, which is more likely to evoke empathy than anger (Weiner, 1979; 1980). This finding is consistent with earlier research that posits female staff are more likely to hold empathic attitudes towards individuals with ID (Ouelette-kuntz et al, 2003). There was no significant correlation with gender and other attributions therefore this study cannot support previous research findings that male staff have harsher (i.e. more internal/controllable) attributions (Higgins & Ireland, 2009).

4.4 Research Question 2: Demographics correlated to ERCB

4.4.1 Gender

Higher levels of anxiety and depression were found in female participants, which is in contrast to previous findings which predicted either women to have more positive attitudes (Gill et al, 2002) or no gender difference at all (McGill et al, 2001). This finding also somewhat contradicts the findings of section 4.3.2

which identified women to have attributional styles that are more empathic and likely to lead to positive attitudes. One possible explanation for this is that women may have increased empathy for any victim of challenging behaviour, particularly aggressive challenging behaviour (Ireland, 1999; Ireland & Clarkson, 2007), therefore resulting in increased negative emotions towards challenging behaviour.

An additional possible explanation for this may be the difference in previous experience men and women have had. Possibly more men had experience working with challenging individuals. However, when we look at the types of experience staff have had there is a comparable number who have had relevant experience in both genders (see section 3.10 in extended results). What the present study does not allow us to explore is the type of past experience that staff may have had. Although the demographics questionnaire does ask about relevant past experience it does not specifically ask about all their past occupations and is therefore dependent upon what staff choose to report.

The nature of working with ID offenders means that staff are likely to work in a very physically demanding environment, either through direct care or being involved in physical restraints associated with challenging behaviour management (Murphy, Kelly-Pike, McGill, James & Byatt, 2003). It is possible that previous experience, outside of care or ID settings, may have prepared staff for dealing with these physical demands, such as manual occupations.

Although there have been substantial changes in the types of jobs men and women perform, with a move towards equality, research indicates that they still tend to be employed within “sex-stereotypic fields” (Schneider & Schmidt, 1996; p 18). Arbor (2009) conducted a telephone survey of businesses and asked about the characteristic of their workforce. They found that across the whole distribution only 26% of manual positions were held by women, and many firms had no women in such roles. Therefore if more men are holding manual [and therefore physically demanding] roles as their past experience, then males may be more able to cope with the physical demands placed on them whilst dealing with challenging behaviour. Future research could incorporate further questions on participants past experience within the demographics questionnaire to test this hypothesis.

Additionally it has been found that when female staff are exposed to physically demanding work then they may have more resulting physical ailments (Aittomaki, Lahelma, Ros, Leino-Arjas & Martikainen, 2005). It could be possible to hypothesise therefore that women working with physically demanding challenging behaviour are subjected to physical consequences that may impact upon their emotional attitudes towards such behaviour. Further study could be conducted asking staff about their experience of physical injury resulting from challenging behaviour and exploring the relationship between this and emotional attitudes expressed on the ERCB.

Alternatively this difference in emotional reactions may be due to gendered roles and the socially constructed idea of males being more able to cope

(physically and psychologically) with challenging behaviour, such as aggression. Much discussion exists on the social construction of gender roles with the role of women being seen as more vulnerable to acts of violence (e.g. physically aggressive challenging behaviour) (Hollander, 2001). Additionally there is a pervasive construct of “masculinity” (Katz, 2003); in which, “...‘real men’ are physically strong, aggressive and in control of their work” (Brod, 1987, pp 14). Therefore men may feel more able to cope with challenging behaviour due to this masculine role. However, they may also be constrained by such a constructed male gender role, which may inhibit emotional expression (Levant, 1996) and it may have been this that hindered their responses on the ERCB.

Although no statistics are available on the demographics of ID offenders at the sites currently being studied, it could be assumed from prevalence studies that the population is mostly male (75.7% of population studied) (Cockram, 2005b) and research shows that challenging behaviour is usually perpetrated by men (Sigafos et al, 1994; Holland et al, 2002). Therefore female staffs’ difficulty with coping physically with the demands of challenging behaviour perpetrated by male ID offenders may be exacerbated.

It would be interesting to investigate the differences in attitudes reported by males and females in two ways. Firstly by identifying if there is a difference between genders in who actually manages the behaviour, by looking at actual incident occurrence. This could be done by accessing the incident sheets staff complete at each site following an incidence of challenging behaviour. If women were found to be dealing with challenging behaviour less it could be

hypothesised that this is why they are feeling more anxious about it, as they have not had the opportunity to habituate to the anxiety provoked by such incidents. If women were found to be directly dealing with challenging behaviour less then further study could be done to see why this is and whether this is due to socially constructed gender roles – this could be done by interviewing staff and using a narrative approach to explore how they construct the roles of men and women and how they construct the role of gender in dealing with challenging behaviour.

Another way of exploring this link is to investigate the differences in attributions made by men and women towards challenging behaviour, as these may contribute to the emotional reactions staff experience. As we saw within research question 1, there was a significant correlation between the genders for Stimulation and Biomedical attribution and such causal attributions are correlated with negative emotions (see below section 4.6).

This finding is significant because it identifies a group of staff (i.e. women) that are potentially vulnerable to negative emotions working with challenging behaviour and the implications that they have, i.e. difficulties in working with clients (Snow et al, 2007) and personal difficulties such as stress and burnout (Long et al, 2008). It may also highlight the vulnerability of men, in that they may be inhibited in reporting negative emotions dealing with challenging behaviour.

4.4.2 Qualification

As discussed in the journal, higher level of qualification was significantly correlated with increased negative attitudes. One possible explanation for this may be that as qualification increases so does the level of responsibility that the individual assumes for managing challenging behaviour. Hastings and Brown (2002) also found that participants with higher formal qualifications reported higher levels of depression and anger and also postulated that this may be due to increased responsibility associated with higher qualification

Another possible explanation is that as qualification increases, actual contact time with challenging behaviour decreases as the individuals are more likely to be involved in less direct clinical work (such as indirect therapeutic work, education, etc). McGill et al (2001) found that such job requirements as direct interaction with clients may impact upon staff attitudes and consequent behaviour. Therefore when faced with challenging behaviour such individuals may be more likely to react with shock and concern as they are less used to dealing with such situations. Consequently, this would be an interesting area for further study – participants could be asked to record actual contact time with ID offenders on the demographics questionnaire and this could be correlated with qualification, attributions and attitudes to test this hypothesis. Alternatively a qualitative approach (such as narrative or grounded theory) could be used to assess how participants feel about their responsibility for challenging behaviour.

Again this identifies a potentially vulnerable group of staff and whatever the explanation it is an important finding and needs addressing when considering

support for staff. It could be assumed that those with higher qualifications already have already learnt the skills needed to cope well with challenging behaviour. However, this assumption may mean that such individuals are not given the specific support and guidance needed to cope with challenging behaviour.

4.4.3 Age, Experience and Training

Age, training and experience were not significantly correlated with the type of emotions shown on the ERCB (neither positive nor negative). These variables were all significantly correlated with each other (see post-hoc analyses, extended paper 3.10 for correlations). This indicates that as age increases so too does experience and training. It is therefore surprising that none of these correlated with more positive emotions shown on the ERCB, as the literature from ID and offender populations suggests that age, experience, and training are likely to increase positivity (Slevin & Sines, 1996; Gordon, 1999; Hogue, 1995), as individual's become more confident in themselves and their abilities, develop ways of explaining challenging behaviour (i.e. causal attributions) and develop skills to manage it (i.e. within training). It is possible that this tendency for increase in positive attitudes has been mediated by other factors within the current ID offender population.

As age and experience are positively correlated, it stands to reason that as these increase, so too does contact time with the population. Such increased exposure to challenging behaviour may lead to symptoms of trauma including fear, helplessness, alongside intrusive thoughts and distressing dreams

(Raczka, 2005). This is particularly true if challenging behaviour (especially aggression) is directed towards the individual staff member.

Additionally, even if staff are not directly involved in challenging behaviour incidents they may still be subjected to vicarious traumatisation. Vicarious traumatisation occurs through the exposure to others' experience of trauma and leads to the development of trauma symptomology themselves, such as shock, depression or feelings of vulnerability (The Infant Mental Health Project, 2004).

Therefore it may be that any positive effects of increased contact and experience with the client group are mediated through traumatic exposure to challenging behaviour. Again in order to fully investigate this hypothesis it would have been useful to take an actuarial measure of exposure to challenging behaviour, including the type of behaviour shown. Additionally it may be interesting to include a measure of post-traumatic stress in further research in order to test this hypothesis. Examples of such a measure include the PTSD checklist (PCL – Weathers, Litz, Huska & Keane, 1993), which has been extensively used both clinically and for research and has excellent psychometric properties (Weathers, Keane & Foa, 2009).

4.5 Research Question 3: Regression Models

Both the Stimulation and Biomedical regression models were found to be significant but as discussed in the journal paper, only a relatively small amount of variance was accounted for by the five demographics predictor variables.

Additionally the other two regression models were not significant at all. Therefore it is important to consider what additional variables may account for the variance found in attributions and emotional attitudes displayed by staff.

One possibility that has not been considered in the present analyses is the job requirements individual staff are exposed to. Job requirements have been recently identified as one of the major staff characteristics that mediates attitudes towards challenging behaviour, alongside age and gender (Lambrechts & Mae, 2009). As discussed earlier (extended paper 4.4.2), levels of responsibility and interaction with clients may vary significantly dependent upon job role. In particular managers have significantly less interaction with challenging behaviour than direct care staff (McGill et al, 2001). It would therefore be interesting to explore the effects of job requirements on the types of attributions being held by staff. Although details were gathered about occupation, there was not an adequate number of staff from groups other than care/nursing to analyse. This could be done within the present study design but by expanding the demographics questionnaire to incorporate not only occupation but also types of roles taken on by staff, direct contact time with clients and also recording actual exposure to challenging behaviour.

Again, as discussed earlier it would have been interesting to further investigate participants past experience. This may also account for additional variance within the types of attributions held. Furthermore there may be additional demographic factors that impact upon the types of attributions held by staff, such as ethnicity of participants or marital/family status. For example a

participant with a dependent family may be more concerned about challenging behaviour (particularly aggression); as if they were injured in the course of managing such behaviour then this would have a significant impact upon other member's of their family and possibly on their ability to care for dependents. Therefore their attributions and attitudes may be significantly different from individuals without these additional concerns. Again, these demographic variables could simply be added to future versions of the demographic questionnaire.

4.6. Research Question 4: Correlations between attributions and emotions

4.6.1 Learned Behaviour Negative and Negative Emotions

The finding that Learned Behaviour Negative attributions and negative emotions are positively correlated is not consistent with previous findings in ID populations (Bailey et al, 2006) but does support Weiner's (1979; 1980) Attribution theory as increased controllability can result in anger. Additionally, Learned Behaviour Negative is an attribute that emphasises the role of staff as a reinforcer and therefore staff may feel more responsible and more stressed as a result (Hastings & Brown, 2002).

This is an important finding when we consider the content of most training packages offered to staff. Training packages often focus on exploring reinforcement of challenging behaviour and identifying this as a major contribution towards challenging behaviour. (Totsika, Toogood, Hastings & Nash, 2008; Berryman et al, 1994; Dowey et al, 2007). Whilst this clearly has

merits in helping staff to manage challenging behaviour through avoiding such reinforcement, the negative emotional reaction associated with this also needs to be addressed within training, as this may also have a significant impact on staff's ability to respond to individuals (Snow et al, 2007).

4.6.2 Biomedical and Negative Emotions

The finding that biomedical attributions are related to negative emotions, is consistent with Seligman et al's (1979) learned helplessness theory of depression. If the staff attribute challenging behaviour towards Biomedical causes then it may be that they view the difficulties as stable and unable to be changed. This could lead to frustration and feelings of helplessness. This may be influenced by other factors such as their willingness and motivation to help but if staff find themselves thinking that there is little to be done they may have a stronger emotional reaction and be more likely to feel depressed.

This finding is important when considering that hospital settings are often grounded in medical/nursing models (Taggart & McConkey, 2001). This is certainly true for the present services which are structured around a multi-disciplinary team (MDT) led by a psychiatrist and consisting largely of qualified nurses. This structure may accentuate such biomedical causal attributions therefore exacerbating this problem. There is therefore an implication for service structure and the need to consider the prevalence of medicalised models.

4.6.3 Physical Environment and Fear/Anxiety

If staff attribute challenging behaviour towards the physical environment then it is likely that they will experience a vast amount of frustration. This is due to the fact that physical environments tend to be static and fixed and therefore stable. Within ID populations there is often a need to keep physical environments the same in order to provide consistency for individuals and when working with challenging behaviour there is a need for a highly structured and consistent environment (Brian Injury Association of Queensland, 2009). Additionally, physical environments are often determined by management or specific departments (i.e. housekeeping, maintenance) therefore clinical staff are likely to feel that they are largely out of their control. Consequently inability to change such environments may make staff feel unable to prevent or illicit change on challenging behaviour because they are unable to change the environment. Such feelings of inability to change and lack of control are theoretically linked to negative emotions (Abramson et al, 1978).

This frustration at the inability of services to change their physical environment is likely to be exacerbated in ID offender services, given the previous discussion of these services' inability to change due to the need to balance therapeutic and security needs. Services could seek to improve this by enabling staff to become more involved with physical environment design, maintenance and change, possibly through the use of review and focus groups. This would enable staff to feel less frustrated and improve their feelings of control and autonomy, therefore reducing the negative impact of physical environment

attributions to explain challenging behaviour because these can be changed and are not stable.

4.7 Regression models

As discussed, the regression models were not found to be significant for the causal attributions staff make and the type of emotions they show. Therefore there must be other variables that are accounting for the variance in ERCB scores. One possibility is the level of actual exposure to challenging behaviour and this may have impacted upon the types of emotions expressed. This was discussed in section 4.4.2 above and it would be interesting to conduct further investigation incorporating a measure of actual exposure to challenging behaviour – both directly and indirectly, through witnessing challenging behaviour incidents.

An additional hypothesis to explain the variance in emotional reactions is the level of self-efficacy staff may feel when encountering challenging behaviour. Self efficacy is an individual's sense of their ability to perform specific tasks (Bandura, 1991) or put another way an individuals 'capacity to deal with the particular sets of conditions that life puts before them' (Reber, 1995). Given the previous discussion on the impact of challenging behaviour on staff (including injury and psychological trauma) it stands to reason that their perceived ability to cope with the behaviour may affect how they react emotionally. This has also been identified as a significant contributor in the Theory of Planned Behaviour (Ajzen, 1991) discussed in section 1.1.

The link between self-efficacy and negative emotional reactions in staff working with individuals with ID has been found in previous research (Hastings & Brown, 2002). It would therefore be very interesting to investigate ID offender staff's perceived level of self-efficacy and whether this impacts upon their ERCB scores. This could be done using a similar methodology but incorporating a self-efficacy measure such as the General Self-Efficacy Scale (GSES; Schwarzer, 1992), shown to have good levels of reliability and validity (Tong & Song, 2004; Murphy & Murphy, 2006).

There may be additional factors outside of the actual incidences of challenging behaviour that are affecting staff's attitudes. For example how they feel about their job in general. Occupational motivation consists of two broad groups, the first being extrinsic motivators (e.g. material incentives, recognition from others or the dictation of others), the second being intrinsic motivators (e.g. self-determination, curiosity or interest in the work) (Amabile, Hill, Hennessey & Tighe, 1994). It is possible that if a staff member is extrinsically motivated this may impact more upon their locus of control, feeling like they have less choice to be there and therefore feel more negatively towards the behaviour. Conversely, individuals who have chosen to work with the client group because of an intrinsic motivation and interest towards working with ID offenders may experience more positive attitudes. This would certainly be an interesting hypothesis to investigate further and could be conducted by incorporating a motivation scale that measures intrinsic and extrinsic motivation towards their occupation, for example the Work Preference Inventory (WPI; Amabile et al,

1994). This scale has demonstrated good psychometric properties and stable results over time (Amabile et al, 1994).

Lastly, it is possible that service level factors are affecting staff's attitudes towards challenging behaviour in ID offenders. This may be particularly true given the organisational changes occurring at one of the sites during recruitment. It would be interesting to further investigate service structure and its promotion of staff feelings of control and autonomy. As there is no clear hypothesis about what type of service structure would promote such staff feelings and attributions an inductive methodology such as Grounded Theory could be employed.

Lastly, it would be interesting to investigate the level of staff support, supervision and team cohesion staff experience and whether this accounts for variance within attitudes reported. Levels of staff support and supervision could be investigated using a questionnaire based study, using a scale such as the Manchester Clinical Supervision Scale (Winstanley, 2000) which is determined to have good psychometric properties (Hyrkas, Appelqvist-Schmidlechner & Oska, 2003). In order to investigate staff experience of team cohesion it may be interesting to initially conduct a qualitative study using a methodology such as grounded theory or thematic analysis.

4.8 Number of attributions and attitudes

The number of attributions staff held was positively correlated to negative emotions on the ERCB. No previous research has explicitly investigated the

number of causal attributions held and the level of negative emotions expressed, but it is an interesting consideration within the context of the present study.

One possible explanation for the link between multiple attributions and negative emotions is that it would be potentially difficult for staff to make certain judgements about any one incidence of challenging behaviour. This potential inability to make a certain judgement would mean that attributions become less stable, which as discussed earlier lead to negative emotions (Weiner, 1979; 1980). Additionally, this confusion would significantly decrease predictability and therefore staff may be feeling highly anxious about challenging behaviour because they experience a constant state of threat. The idea of predictability has been found to significantly mitigate negative emotions such as anxiety (Grillon et al, 2008).

This is an interesting finding when considering much of modern day training for staff in ID services. Most training aims to help staff make Learned Behaviour Negative attributions (i.e. behavioural approaches, emphasising reinforcement) (e.g. Dowey et al, 2007; Campbell & Hogg, 2008). As these are attributions that are not usually held by staff pre-training then the number of attributions they hold may increase. This finding calls into question the validity of such an approach as increased numbers of attributions may increase negative emotions. One possible explanation for this is that by widely accepting all causal attributions for challenging behaviour it is harder to isolate the reasons for any particular incidence. In this way, challenging behaviour becomes more

unpredictable and less easy to control (due to the vast number of conditions that would need to be controlled). This increase in uncontrollability and relation to negative emotions is consistent with past research (Abramson et al, 1978). Again this highlights the need for training to include a consideration of staff needs and support.

4.9 Limitations

4.9.1 Sample

As discussed the present study used a self-selected sample, as only those who chose to return the questionnaire could be included in the study (19.17% response rate). Although this technique allowed the Chief Investigator to approach the whole of the population, there may be bias in the types of participants that returned the questionnaires. Their attitudes may not have been representative of the whole population. As discussed previously, participants reported both negative and positive emotions, which were relatively moderate in strength. It is possible therefore that staff who held more extreme attitudes did not complete the questionnaires for some reason.

Furthermore, as previously discussed, during the course of the data collection, one of the sites was subject to service level change. Unfortunately it was not possible to collect data on this to assess its impact upon the present findings. Additionally due to ethical issues of comparing data between sites and anonymity of participants, it was not possible to identify which participants were recruited from that site. Therefore no analysis could be conducted to assess the

impact of these changes and this may therefore affect the generalisability of the findings.

An additional consideration is that the sample was taken from independent hospital sites rather than National Health Service (NHS sites). Whilst this is not in itself a limitation, it does provide some difficulty in applying previous knowledge and comparing the results currently found. Most of the research discussed from the United Kingdom (UK) sampled participants from NHS hospitals or government run prisons. There may be particular service level aspects of these organisations' structures that may impact upon the types of attitudes shown. Additionally for research conducted outside of the UK, it is difficult to know the types of organisational structures. Whilst this does make direct comparisons difficult, it highlights that further research in independent hospitals is an important area for study. Since the early 1990's there has been a move to increasing provision by independent providers (Yacoub, Hall & Bernall, 2008) and the independent sector is estimated to currently hold 20.4% of provision for ID clients (Healthcare Commission, Mental Health Act Commission and National Institute for Mental Health in England, 2006). Therefore research within non-NHS sites is not only desirable but needed for future comparison.

4.9.2 Definition/Topography of challenging behaviour

As discussed in the journal, another limitation to the present study is that staff may not have understood what was meant by challenging behaviour. In order to address this staff could be provided with a definition of what was meant by

challenging behaviour within the context of the study. Alternatively it would be interesting to provide staff the space to detail what their views of challenging behaviour are, this could then be analysed using a technique such as content analysis to investigate themes of challenging behaviour definition and differences in attitudes associated with these.

Continuing from the above point, Hastings and Brown (2002) identified two main factors associated with attitudes towards challenging behaviour. Firstly, the attributions being made, incorporating both function, i.e. causality, and controllability. Secondly, is the topography of the challenging behaviour, which was not addressed within the remit of the present study. It could be hypothesised that the attitudes staff display towards challenging behaviour such as serious physical aggression, may be different than those towards behaviour such as repetitive questioning. Research has shown differences such as these, with more independent and outwardly-directed challenging behaviour associated with increased attributions of control (for the person exhibiting the behaviour), negative emotion and less propensity for helping behaviour (Stanley & Standen, 2000).

Therefore in replications of this study it would be important to operationally define the topography of challenging behaviour being considered. It might also be interesting to repeat the questionnaires with individual staff completing questionnaires for several different types of challenging behaviour. These could then be compared using a within-subjects design. It would be important that such definitions were ecologically valid as studies using real-life incidences of

challenging behaviour have been noted to be significantly different from fabricated ideas of challenging behaviour, with attributions, emotional attitudes and associated behaviour being much stronger to real incidents (Lucas, Collins & Langdon, 2009).

4.9.3 Measures used

In addition to the above mentioned limitations associated with the current measures of attitudes, there are further limitations associated with the individual measures used. Firstly regarding the ERCB, staff may hold different definitions of the emotion words used; although this limitation should be limited with the solid psychometric properties the scale holds (Mitchell & Hastings, 1998).

A significant limitation in the ERCB design regarding the current study is that the scale provides no clear indication of cut-off points on the sub-scales. The authors (Mitchell & Hastings, 1998) suggest that the tool can be used as an 'early warning' tool to indicate minor mental health problems in care staff. However, they give no indication of what scores would indicate such an early warning. If the scale had incorporated cut off points then comparisons could have been made between those staff displaying concerning levels of negative (and possibly positive) emotions and those who do not. This would be a valid endeavour for future research. Furthermore the ERCB makes it difficult to apply Attribution theory as depression and anger are contained on the same subscale. However, within attribution theory depression and anger are the result of different ends of the controllability dimension; with depression resulting

from low levels of perceived controllability and anger from high (see Table 7, extended paper 1.1.2).

An additional limitation in using the ERCB may be the issue of 'Emotional Intelligence'. Emotional intelligence refers to the ability of individuals to accurately perceive, understand and report the emotions that they experience (Mayer, Salovey & Caruso, 2008). If participants have different levels of emotional intelligence then it may affect their ability to accurately recognise and report the emotions they experience during incidences of challenging behaviour and therefore their reporting on the ERCB. This limitation could be overcome by assessing participants' emotional intelligence alongside the ERCB. One such measure includes the Bar-On (2000) Emotional Quotient Inventory (EQ-i), which has good psychometric properties (Matthews, Zeichner & Roberts, 2004). The EQ-i is one of the most comprehensive self-report measures, measuring not only emotional awareness but also assessing factors such as empathy, responsibility and stress management (Matthews et al, 2004), all of which have been identified in the current discussion as worthy of further investigation.

As discussed above the major limitation using the CHABA is the lack of explanation and definition of challenging behaviour. However, a further limitation is that the CHABA does not highlight where the attribution subscales lie on the different dimensions (i.e. control/uncontrollable, internal/external). Therefore it is difficult to make firm hypotheses about the types of attributions staff make. Previous studies (Bailey et al, 2006) have attempted to make such a classification but have not explicitly stated how they have done so, therefore

making it impossible to accurately replicate their procedure. This would be an interesting area of further investigation.

Finally, the demographics questionnaire was relatively long and not all the information gathered was explicitly used. The amount of information being asked for may have inhibited staff from completing the questionnaires, as although anonymous they have been concerned that they could be identifiable from their demographic information, although this was not possible. Furthermore the sheer length of the questionnaire may have been a barrier to completing the questionnaires and this would need addressing in further study.

4.10 Implications

4.10.1 Theoretical Implications

In addition to the implications discussed in the journal paper, the present study has some implications regarding the present knowledge of ID offenders and staff attitudes towards them. The previous discussion has been able to highlight areas that support research within ID and offender groups, but also highlights findings that are not consistent. This may be due to the influence of variables previously discussed but may also be a finding that is unique to this particular group. Only through repeated research into this population can this be established.

4.10.2 Clinical Implications

The research does also hold positive implications for the present group of staff demonstrating that although they hold some negative attitudes towards challenging behaviour they also hold some positive attitudes. This is likely to mediate any effect of the negative attitudes and indicates that the present group of staff are likely to provide a positive influence for their clients.

4.11 Ideas for further research

As discussed in the previous section there are numerous areas for further research. This initial exploratory study into attitudes towards ID offenders has raised a number of questions regarding how attitudes are measured and about the variables that may contribute to such attitudes. Alongside investigating these areas already highlighted it would be interesting to replicate the current study (after addressing the methodological issues) to assess the generalisability of the findings. Furthermore, given the mixed evidence between reported attitudes and overt behaviour (discussed in section 1.1) displayed it would be interesting to investigate this link.

There are several ways this could be investigated, given the hypothesis that certain attributions would lead to positive behaviour such as helping (Weiner 1979). One option would be to measure staff attributions (using the CHABA) and ask them to rate their potential future behaviour using vignettes. However, as discussed, other studies using this methodology have demonstrated limitations due to socially desirable responses and lack of ecological validity.

Alternatively this method could be employed but instead of using vignettes, a follow-up study could be conducted asking staff how they reacted to actual situations. However, this is again limited because it relies on retrospective data, requiring staff to accurately remember and report their behaviour. However, this limitation could be overcome by comparing staff reports to incident sheets completed at the time of a challenging behaviour to rate accuracy.

One further area of future research may also be the link between attitudes towards the client group and staff's feelings outside of their job. Occupation and job role forms a substantial part of a person's life and provides a source of identity and self-worth (Bandura, 1997). The connotations that a job title or occupation may hold, however inaccurate they may be, indicate a person's nature or personality and may produce secondary gains such as social class, standing or feelings of self-worth. Therefore if staff experience negative emotions as a result of challenging behaviour whilst at work this may impact upon their wider identity and sense of self. Likewise, if staff attribute events (i.e. challenging behaviour) to outside of their control or as being stable, this too may impact upon their attributions of events outside of their working life. If work-life informs identity and self-worth (Bandura, 1997), staffs' feelings of being unable to affect change or take responsibility at work may be reflected in other areas of their life. This would be an interesting area of further investigation, once the present methodological issues have been answered.

4.12 Critical Reflection

The present piece of research took a positivist/realist hypo-deductive epistemological stance. Positivism was first conceptualised as early as the eighteenth century, by the British empiricists and French mechanists (Thorne & Henley, 1997). The stance initially tended to view humans from a mechanistic model (Thorne & Henley, 1997). It highlighted the need for knowledge to be sought from empirical observation of observable facts (Hepburn, 2003) and saw science as the only true form of knowledge. Realism is similar but places an equal importance on underlying mechanisms to such observable phenomenon (Hepburn, 2003). Hypo-Deduction means going from theory to a testable prediction or hypothesis (Barker, Pistrang & Elliott, 2002).

This epistemological stance was taken for a number of professional and personal reasons. Professionally (despite moves to incorporate other qualitative methodologies), quantitative data, methods and models still appear to have precedence in academic psychological research (Harre & Secord, 1972; Smith, Harre & Van Langenhove, 1995). People in powerful positions in the academic world, i.e. journal editors or examiners, are still more likely to adhere to these traditional models of research (Barker, Pistrang & Elliott, 2002). Therefore there continues to be an underlying drive to use such techniques and without positivism research often has little credence (Botterill, 2000). Conversely, qualitative methodological techniques, associated with alternative epistemological stances, are often subject to criticism such as questions regarding validity (Whittemore, Chase & Mandle, 2001). Psychology as a whole

tends to be conservative in its interpretation of appropriate science and it is said that departing from convention is at great risk (Giorgi & Giorgi, 2008).

Personally, this approach was definitely one I was more comfortable with and familiar with from past research. This past research had been largely successful, in terms of meeting academic requirements and this experience had increased my confidence with the types of quantitative methodologies associated with hypo-deduction. Prior to completing my research I did consider using a more inductive, qualitative approach as this was in essence an exploratory study investigating a group of individuals who have been paid little attention in research previously. However, my under-confidence using such approaches coloured my ability to do so.

Whilst conducting my research in this stance I have felt largely comfortable using such a stance. Providing staff with a questionnaire to assess their attitudes was a very practical way to assess a large sample, and gave me the scientific credence that I felt was needed for such an important piece of research. However, on reflection there are a number of concerns I have about this epistemological stance.

In conducting the research this way I have found some interesting answers to the initial hypotheses raised. However, it has also raised more questions than it has answered, which is a criticism often levelled at quantitative positivist research (Barker, Pistrang Elliott, 2002) and one that I have definitely struggled with. Additional criticisms of positivist research expands on this stating that

quantitative research very rarely provides the answers it seeks, and the 'scientific laws' of people, behaviour and beliefs that are proposed to be discoverable have not yet been produced (McNeill & Chapman, 2005). Furthermore, authors have stated that not only have these absolute laws not been discovered but that there is no such thing as objective truth (McNeill & Chapman, 2005; Popper, 1934).

Through completing the research I have also begun to question whether such complex phenomenon as human beings can truly be reduced to simple numerical values as has been done in the current research. Doubts have long been raised about the appropriateness of applying statistical knowledge to human beings (Lamiell, 1995; Bakan, 1966), being insufficient to truly understand human behaviour and actions (Hepburn, 2003). As I have discussed in the previous sections, the study of attitudes is inherently complex and incorporates numerous contextual factors, which do not appear to be clearly applicable to statistical measurement.

Therefore in future research I would want to consider alternative approaches and have attempted to incorporate this into my plans for further investigation (in answer to the questions raised by my results). Smith, Harre & Van Langenhove (1995) set out a number of key research principles which I would consider in future research. They are (1) Conducting research in the real world, (2) Recognising the role of language and discourse, (3) Observing life and research as dynamic interactions and (4) Observe persons and individuals rather than actuarial statistics and variables.

Although my research met with the first principle, in that it was conducted within a real life setting, it missed the great depth of knowledge and wealth of nuances that the other principles would allow for. Whilst collecting data and being on-site I received a vast amount of knowledge from staff about how they felt about the particular client group and their dealings with them and their challenging behaviour. The thoughts, attitudes and reactions expressed were so complex, as would any human response be, that no single questionnaire (no matter how cleverly devised) could possibly hope to capture these complexities within one numerical value.

Although this may involve using more qualitative methods, I feel that my earlier fears about this have been dissuaded, particularly as this research has questioned my assumption that quantitative research can give certain answers. This is certainly the stance of other post-realist authors who state that any certainty in scientific research is futile (Maxwell, 1974).

That is not to say that such quantitative methodologies should be completely discounted, conversely I believe that they give us good ideas about specific attributes, specific phenomenon or situations. The danger is when we take results from such studies as proof positive that we now know the truth of the matter and that we hold the key to identifying all the complexities at play.

Therefore in the future I would not completely dismiss my original epistemological stance, but would take great consideration in any “truth” found

from the data and conservative in any interpretations. I would also be interested in incorporating other methodologies to add complexity to the “knowledge” that is produced. This has been incorporated in my discussion of further research which includes both possible quantitative and qualitative methodology.

Therefore I would move to a more critical realist stance, accepting that any knowledge is provisional and that my own expectations and subjectivity will impact upon the research, through the types of questions asked, analysis used, interpretation of results, and hypotheses for unexpected findings. Such a post-positivist and critical realist stance means that results can be viewed in terms of probable effects. It is therefore important to note that, whilst I have posited ideas for the evidence based upon my own experience and current theoretical knowledge, the reader may draw their own conclusions based on the evidence presented and their own construction of that evidence.

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- disabilities who display challenging behaviour. *Journal of Intellectual Disabilities*, 11(2), 197-211.
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APPENDIX ONE: Journal Author Guidelines:

The Journal of Applied Research in Intellectual Disabilities (JIDR)

The *Journal of Applied Research in Intellectual Disabilities* is an international, peer-reviewed journal which draws together findings derived from original applied research in intellectual disabilities. The journal is an important forum for the dissemination of ideas to promote valued lifestyles for people with intellectual disabilities. It reports on research from the UK and overseas by authors from all relevant professional disciplines. It is aimed at an international, multi-disciplinary readership.

The topics it covers include community living, quality of life, challenging behaviour, communication, sexuality, medication, ageing, supported employment, family issues, mental health, physical health, autism, economic issues, social networks, staff stress, staff training, epidemiology and service provision. Theoretical papers are also considered provided the implications for therapeutic action or enhancing quality of life are clear. Both quantitative and qualitative methodologies are welcomed. All original and review articles continue to undergo a rigorous, peer-refereeing process.

Original Articles, Review Articles, Brief Reports, Book Reviews and Letters to the Editor are accepted. *Theoretical Papers* are also considered provided the implications for therapeutic action or enhancing quality of life are clear. Both quantitative and qualitative methodologies are welcomed. Articles are accepted for publication only at the discretion of the Editor. Articles should not exceed 7000 words. Brief Reports should not normally exceed 2000 words.

Submissions for the Letters to the Editor section should be no more than 750 words in length.

Guidelines for publication

1. Format

Language: The language of publication is English. Authors for whom English is a second language must have their manuscript professionally edited by an English speaking person before submission to make sure the English is of high quality.

2. Structure

All manuscripts submitted to the *Journal of Applied Research in Intellectual Disabilities* should include:

Keywords: Up to six key words to aid indexing should also be provided.

Main Text: All papers should be divided into a structured summary (150 words) and the main text with appropriate sub headings. A structured summary should be given at the beginning of each article, incorporating the following headings: Background, Materials and Methods, Results, Conclusions. These should outline the questions investigated, the design, essential findings and main conclusions of the study. The text should proceed through sections of Abstract, Introduction, Materials and Methods, Results and Discussion, and finally Tables. Figures should be submitted as a separate file.

Style: Manuscripts should be formatted with a wide margin and double spaced. Include all parts of the text of the paper in a single file, but do not embed

figures. Please note the following points which will help us to process your manuscript successfully:

- Include all figure legends, and tables with their legends if available.
- Do not use the carriage return (enter) at the end of lines within a paragraph.
- Turn the hyphenation option off.
- In the cover email, specify any special characters used to represent non-keyboard characters.
- Take care not to use l (ell) for 1 (one), O (capital o) for 0 (zero) or ß (German esszett) for (beta).
- Use a tab, not spaces, to separate data points in tables.
- If you use a table editor function, ensure that each data point is contained within a unique cell, i.e. do not use carriage returns within cells.

Spelling should conform to *The Concise Oxford Dictionary of Current English* and units of measurements, symbols and abbreviations with those in *Units, Symbols and Abbreviations* (1977) published and supplied by the Royal Society of Medicine, 1 Wimpole Street, London W1M 8AE. This specifies the use of S.I. units.

3. References

The reference list should be in alphabetic order thus:

- Emerson E. (1995) *Challenging Behaviour: Analysis and Intervention in People with Learning Disabilities*. Cambridge University Press, Cambridge.
- McGill P. & Toogood A. (1993) Organising community placements. In: *Severe Learning Disabilities and Challenging Behaviours: Designing High Quality*

Services (Eds E. Emerson, P. McGill & J. Mansell), pp. 232-259.
Chapman and Hall, London.

-Qureshi H. & Alborz A. (1992) Epidemiology of challenging behaviour. *Mental Handicap Research* **5**, 130-145

Journal titles should be in full. References in text with more than two authors should be abbreviated to (Brown *et al.* 1977). Authors are responsible for the accuracy of their references.

4. Tables, Figures and Figure Legends

Tables should include only essential data. Each table must be typewritten on a separate sheet and should be numbered consecutively with Arabic numerals, e.g. Table 1, and given a short caption.

Figures should be referred to in the text as Figures using Arabic numbers, e.g. Fig.1, Fig.2 etc, in order of appearance. Figures should be clearly labeled with the name of the first author, and the appropriate number. Each figure should have a separate legend; these should be grouped on a separate page at the end of the manuscript. All symbols and abbreviations should be clearly explained. In the full-text online edition of the journal, figure legends may be truncated in abbreviated links to the full screen version. Therefore, the first 100 characters of any legend should inform the reader of key aspects of the figure.

APPENDIX TWO: NRES Ethics Approval



National Research Ethics Service **Leicestershire, Northamptonshire & Rutland Research Ethics Committee 1**

1 Standard Court
Park Row
Nottingham
NG1 6GN

Telephone: 0115 8839428
Facsimile: 0115 9123300

08 April 2009

Miss Donna Rooney
Trainee Clinical Psychologist
University of Lincoln
Court 11, Satellite Building 8
Brayford Pool
Lincoln
LN6 7TS

Dear Miss Rooney

Full title of study: An investigation into staff attitudes to challenging
behaviour in learning disabled offenders
REC reference number: 09/H0406/15

Thank you for your letter of 12 March 2009, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information was considered at the meeting of the Sub-Committee of the REC held on 08 April 2009. A list of the members who were present at the meeting is attached.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research site

The Committee has designated this study as exempt from site-specific assessment (SSA). The favourable opinion for the study applies to all sites involved in the research. There is no requirement for other Local Research Ethics Committees to be informed or SSA to be carried out at each site.

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission at NHS sites ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission is available in the Integrated Research

This Research Ethics Committee is an advisory committee to East Midlands Strategic Health Authority.
The National Research Ethics Service (NRES) represents the NRES Directorate within the
National Patient Safety Agency and Research Ethics Committees in England.

Statement one of the consent form must be updated to refer to the current version number and date of the information sheet. Please let me have a copy of the revised document with updated version number and date and I will acknowledge receipt

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Questionnaire: Challenging Behaviour Attributions Scale (CHABA)		
Compensation Arrangements		13 August 2008
Peer Review		19 December 2008
Letter from Sponsor		19 December 2008
Investigator CV		22 December 2008
Application	AB/134695/1	22 December 2008
Questionnaire: Emotional Reactions to Aggressive Challenging Behaviour Scale		
Protocol	1	22 December 2008
Investigator CV		19 December 2008
Response to Request for Further Information		12 March 2009
Participant Information Sheet	2	01 March 2009
Questionnaire: Demographics	2	01 March 2009

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document "After ethical review –guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

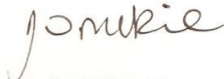
We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

09/H0406/15

Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely



Dr Carl Edwards / Miss Jeannie D McKie
Chair / Committee Coordinator

Email: jeannie.mckie@nottspct.nhs.uk

Enclosures:

List of names and professions of members who were present at the meeting and those who submitted written comments
After ethical review – guidance for researchers: SL- AR2 for other studies


Copy to:

Dr Mark Gresswell

R&D office for NHS care organisation at lead site – Lincoln Partnership Trust

APPENDIX THREE: University Ethics Approval

Page 1 of 2

 You forwarded this message on 19/11/2009 18:22.

Donna Rooney (07091892)

From: Emile van der Zee
To: Donna Rooney (07091892)
Cc:
Subject: RE: Research Ethics Application
Attachments:

Sent: Wed 17/06/2009 09:06

Dear Donna, thank you very much for your response to the queries that were raised. You have ethical approval from today. Good luck with your study, all my best,

- Emile

Emile van der Zee PhD
Principal Lecturer in Psychology
University of Lincoln
Lincoln LN6 7TS
evanderzee@lincoln.ac.uk
<http://www.lincoln.ac.uk/psychology/staff/683.asp>

From: Donna Rooney (07091892)
Sent: Mon 6/15/2009 12:16
To: Emile van der Zee
Subject: RE: Research Ethics Application

Hi Emile,

Thank you very much for your email regarding my ethical application. I have attached responses to the points made by the 4 reviewers. I hope this fully answers the points that they have raised. However, if you need anything further then please do not hesitate to contact me. I look forward to hearing from you soon.

All the best,
Donna

From: Emile van der Zee
Sent: Mon 08/06/2009 12:53
To: Donna Rooney (07091892)
Subject: RE: Research Ethics Application

Dear Donna,

please find attached the unedited comments of the four people who reviewed your application.

As soon as I have received your reply, I'll either give you ethical permission by chair's action (since you have been waiting a long time now), or I may get back to you to ask for clarification or a change in your application regarding the issues raised (which we should then also be able to deal with on a very short term).

I'm looking forward to your reply, all my best,

- Emile

Emile van der Zee PhD
Principal Lecturer in Psychology
University of Lincoln
Lincoln LN6 7TS
evanderzee@lincoln.ac.uk
<http://www.lincoln.ac.uk/psychology/staff/683.asp>

<https://email.lincoln.ac.uk/exchange/07091892/Inbox/RE:%20Research%20Ethics%20...> 19/11/2009

APPENDIX FOUR: Diagnostic criteria for Intellectual Disability

Diagnostic and Statistical Manual (fifth edition, text revision) (DSM-IV-TR)(APA, 2000).

The manual refers to ID as Mental Retardation and defines the following criteria as necessary for a diagnosis:

- A. Significantly sub-average mental functioning shown by an IQ of approximately 70 or below on an individually administered IQ test (for infants, a clinical judgement of significantly sub-average intellectual functioning).
- B. Concurrent deficits or impairments in present functioning (i.e. the person's effectiveness in meeting the standards expected for his age or her age by his or her cultural group) in at least two of the following area:
 - Communication
 - Self-care
 - Home living
 - Use of community resources
 - Self-direction
 - Functional academic skills
 - Work
 - Leisure
 - Health and safety
- C. The onset is before 18 years of age

Code as:

Mild: IQ level of 50-55 to 70 (approx)

Moderate: IQ level of 35-40 to 50-55

Severe: IQ level 20-25 to 35-40.

Profound: IQ level below 20-25.

Diagnosis coded on Axis II

APPENDIX FIVE: The Challenging Behaviour Attribution Scale (CHABA)

Challenging Behaviour Attributions Scale (CHABA)

People with learning disabilities sometimes engage in what are called *challenging behaviours*. These are behaviours that might be dangerous for the individuals themselves (e.g., biting or hitting themselves, bashing themselves against objects), or to others (e.g., kicking, punching, or biting other residents or staff). Such behaviours also include other actions that are considered inappropriate within society in general (e.g., sexually inappropriate behaviour, verbal abuse, eating inedible substances/objects, smearing, persistent shouting/screaming).

We are interested in why YOU think that people with learning disabilities display challenging behaviours such as those described above. Consider how likely it is that each of the following statements are reasons for people with learning disabilities engaging in challenging behaviours. Simply think generally about the most likely reasons for people with learning disabilities behaving in this way.

Please give your response to each of the possible reasons, and use the scales below each reason to indicate your opinion. The key shows what the points on the scales mean

VUL = Very Unlikely
UL = Unlikely
E = Equally Likely/Unlikely
L = Likely
VL = Very Likely

Please indicate your response by ***placing a circle*** around the appropriate point on the scale.

People with learning disabilities engage in challenging behaviours BECAUSE...

- | | | | | | |
|--|-----|----|---|---|----|
| 1. They are given things to do that are too difficult for them | VUL | UL | E | L | VL |
| 2. They are physically ill | VUL | UL | E | L | VL |
| 3. They do not like bright lights | VUL | UL | E | L | VL |
| 4. They are tired | VUL | UL | E | L | VL |
| 5. They cannot cope with high levels of stress | VUL | UL | E | L | VL |
| 6. Their house/classroom is too crowded with people | VUL | UL | E | L | VL |
| 7. They are bored | VUL | UL | E | L | VL |
| 8. Of the medication they are given | VUL | UL | E | L | VL |
| 9. They are unhappy | VUL | UL | E | L | VL |

10. They have not got something that they wanted	VUL	UL	E	L	VL
11. They live in unpleasant surroundings	VUL	UL	E	L	VL
12. They enjoy it	VUL	UL	E	L	VL
13. They are in a bad mood	VUL	UL	E	L	VL
14. High humidity makes them uncomfortable	VUL	UL	E	L	VL
15. They are worried about something	VUL	UL	E	L	VL
16. Of some biological process in their body	VUL	UL	E	L	VL
17. Their surroundings are too warm/cold	VUL	UL	E	L	VL
18. They want something	VUL	UL	E	L	VL
19. They are angry	VUL	UL	E	L	VL
20. There is nothing else for them to do	VUL	UL	E	L	VL
21. They live in a noisy place	VUL	UL	E	L	VL
22. They feel let down by somebody	VUL	UL	E	L	VL
23. They are physically disabled	VUL	UL	E	L	VL
24. There is not very much space in their house/classroom to move around in	VUL	UL	E	L	VL
25. They get left on their own	VUL	UL	E	L	VL
26. They are hungry or thirsty	VUL	UL	E	L	VL
27. They are frightened	VUL	UL	E	L	VL

28. Somebody they dislike is nearby	VUL	UL	E	L	VL
29. People do not talk to them very much	VUL	UL	E	L	VL
30. They want to avoid uninteresting tasks	VUL	UL	E	L	VL
31. They do not go outdoors	VUL	UL	E	L	VL
32. They are rarely given activities to do	VUL	UL	E	L	VL
33. They want attention from other people	VUL	UL	E	L	VL

APPENDIX SIX: The Emotional Reactions to Challenging Behaviour Scale

Emotional Reactions to Aggressive Challenging Behaviour Scale

Below is a list of emotions that caregivers have said that they experience when they have to work with people who display challenging behaviours. We want to know how *you* typically feel in this situation. Think about your own recent experience of challenging behaviours displayed by the people that you work with. Consider each of the emotional reaction, and select the response next to each item that best describes how you feel when working with people who display challenging behaviours

	No, never	Yes, but infrequently	Yes, frequently	Yes, very frequently
SHOCKED	0	1	2	3
CONFIDENT	0	1	2	3
GUILTY	0	1	2	3
HOPELESS	0	1	2	3
COMFORTABLE	0	1	2	3
AFRAID	0	1	2	3
ANGRY	0	1	2	3
INVIGORATED	0	1	2	3
INCOMPETENT	0	1	2	3
HAPPY	0	1	2	3
FRUSTRATED	0	1	2	3
HELPLESS	0	1	2	3
SELF-ASSURED	0	1	2	3
DISGUSTED	0	1	2	3
RELAXED	0	1	2	3
RESIGNED	0	1	2	3
FRIGHTENED	0	1	2	3
CHEERFUL	0	1	2	3
HUMILIATED	0	1	2	3
BETRAYED	0	1	2	3

SAD	0	1	2	3
EXCITED	0	1	2	3
NERVOUS	0	1	2	3

APPENDIX SEVEN: Demographic Questionnaire



DEMOGRAPHICS QUESTIONNAIRE

Title of Project:

"An investigation of Staff Attitudes towards Challenging Behaviour in Learning Disabled Offenders"

This questionnaire is designed to gather some basic information about you. Please read each question carefully and enter the information require or tick the appropriate answer.

Please do not write your name or any identifying information on this form. Your responses will be kept completely anonymous.

Age

1. What is your age?

..... years

Gender

2. Your gender?

☐ Male

☐ Female

Qualification/Occupation

3. Your highest level of qualification?

☐ No formal qualifications

☐ First degree

☐ GCSE (or equivalent)

☐ Post-graduate qualification

☐ A-level (or equivalence)

☐ Other, please specify

4. Your occupation?

..... years

5. Your nursing band (if applicable)?

☐ 2

☐ 7

☐ 3

☐ 8a

☐ 4

☐ 8b-c

☐ 5

☐ Other

☐ 6

6. What is the length of time since you achieved your highest level of qualification?

..... years/months

Experience

7. Do you work with Learning Disabled Offenders?

- ☐ Yes ☐ No

8. How else would you best describe the client group you are working with?

- ☐ Autistic Spectrum Disorder ☐ Sex Offenders
☐ Mental Health Difficulties ☐ Not applicable
☐ Personality Disorder ☐ Other, please specify

9. What is your employment status?

- ☐ Permanent ☐ Agency
☐ Temp ☐ Student
☐ Fixed term ☐ Other
☐ Bank

10. What is the approximate number of hours you work per week

..... hours per week

11. How long have you worked in your current position?

..... years/months

12. Is this your first experience of working with learning disabled offenders?

- ☐ Yes
☐ No

13. If not, what length of experience do you have working with learning disabled offenders?

..... years/months

14. What was your previous work experience?

.....

Training

15. What level of training do you have in challenging behaviour?

- ☐ No formal training on challenging behaviour
- ☐ Limited training (1-2 short courses only)
- ☐ Fair amount of training (several courses)
- ☐ Detailed training (many courses, or coverage on a professional course)
- ☐ Extensive training (specialism in management of challenging behaviour or similar level of training)

16. What is the length of time since your last training in challenging behaviour?

..... years/months

17. Do you feel that you have received enough training on challenging behaviour?

- ☐ Yes the right amount
- ☐ No, not enough training
- ☐ No, too much training

APPENDIX EIGHT: Participant Information Sheet



Title of Project: “*An investigation of Staff Attitudes towards Challenging Behaviour in Learning Disabled Offenders*”

I would like to take this opportunity to introduce myself to you. My name is Donna Rooney and I am a trainee clinical psychologist. I am conducting a piece of research in your workplace as part of the fulfilment of my doctorate in clinical psychology and would like to invite you to take part. This research is looking at attitudes staff have towards challenging behaviour within learning disabled offenders.

Before you decide whether to take part in the study, you need to know why the research is being done and what level of participation would be involved. Please take some time to read the following information carefully. If you wish to talk to others about the study please do so. If there is anything in the following information that you are unsure of or would like to know more about, please do ask me. Please take your time to decide if you would like to participate or not.

What is the purpose of the study?

This study aims to explore attitudes held by staff towards challenging behaviour in learning disabled offenders and the factors that may affect them, such as gender, age, qualifications, experience and training. By doing this, it is hoped that staff will be provided with the necessary support to work with this client group and avoid excessive stress in the workplace.

Why are you inviting me to take part?

As you work closely with people with learning disabilities who have a history of offending, I am interested in the attitudes you have towards these clients and what might aid you in your working life.

Do I have to take part?

No, deciding to take part in this study is completely up to you to. This information sheet describes the study and you should read it carefully before deciding to take part. You are free to refuse to take part or to withdraw at any time during the study, without giving any reason.

What will happen in the study?

If you agree to take part you will be asked to complete three questionnaires. One gathers some basic information about you (including your age, gender, qualifications and training) and the other two ask you about your attitudes towards challenging behaviour in learning disabled offenders.

You are only asked to complete the questionnaires once and are free to complete them at a time that is suitable for you. Once you have completed the

questionnaires then you will be asked to seal them in the envelope included and leave them in the sealed box in the nurses' station. You have two months to return completed questionnaires to myself; any questionnaires returned later than this will not be included in the study. Once the questionnaires have been returned they will be analysed by myself to see trends in the types of attitudes staff have towards these clients.

How will this study benefit me?

I cannot promise that you will receive any direct benefit from taking part in this study. However, I do hope that the information gained from this study will help improve the support given to staff working with these clients.

What if I have a complaint?

It is not anticipated that there will be any disadvantages to your taking part in this study. However, if during the course of the research you become distressed by any of the material involved you can discuss this with your line manager and seek further support.

If you have any complaints about the way you are treated during the study they will be immediately addressed. You should firstly contact the Chief Investigator and I will do my best to answer your questions (01522 886029). If you remain unhappy then you can contact Nottinghamshire Healthcare NHS or the University of Lincoln.

What if I want to withdraw from the study?

You are free to withdraw from the study at any time. However, as data collected is completely anonymous it will not be possible to identify and destroy your data once you have returned your questionnaires.

Will my data be kept confidential?

All your responses will be kept completely confidential. When you return your questionnaires to me they will be securely stored at the University of Lincoln. They will be under the direct care of a custodian (Dr Aidan Hart, Research Tutor) and only accessible by the Chief Investigator. Any data will be stored for 7 years, when it will be disposed of securely.

If you take part in the study you will not give your name or any identifying information which ensures that your responses will be kept completely anonymous.

Results of the study

The results of this study will be written as a report, used to fulfil the requirement of a Doctorate in Clinical Psychology. I also hope that the results will be published within a peer reviewed journal. You will receive a brief written report of the major findings and I will be providing a presentation to report these findings to you. There will be no identifiable information in any written report/publication or presentation.

Organisation and Funding

The University of Lincoln is responsible for funding this study.

Thank you for taking the time to read this information sheet. If you would like to take part then please complete the enclosed questionnaires and return them in the envelope provided. If you have any further queries or questions then please do not hesitate to contact me.

Many thanks,

Donna Rooney (Chief Investigator)

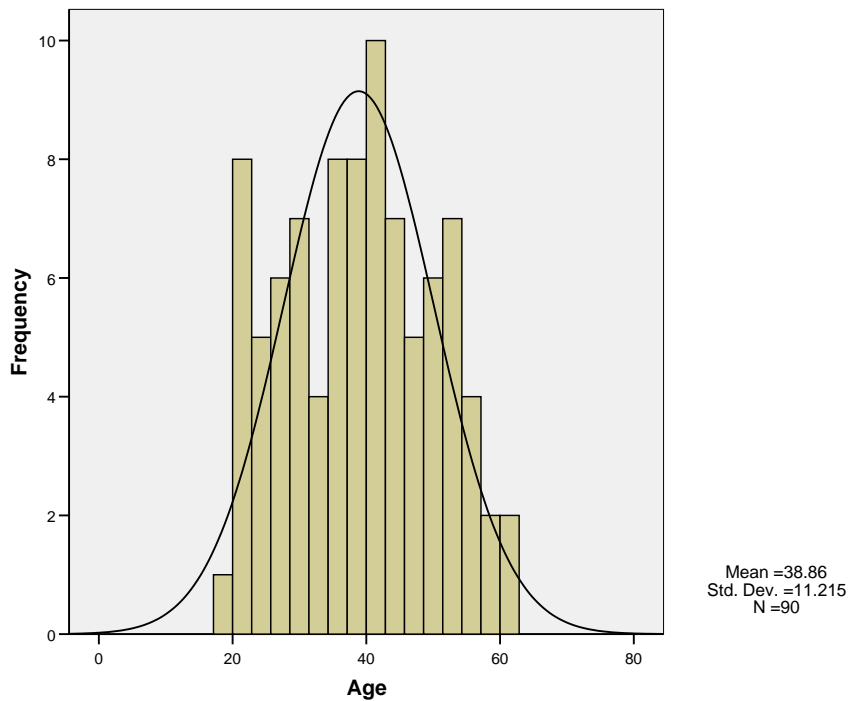
University of Lincoln, Satellite Building 8, Court 11, Brayford Pool, Lincoln. LN6 7TS

01522 886029

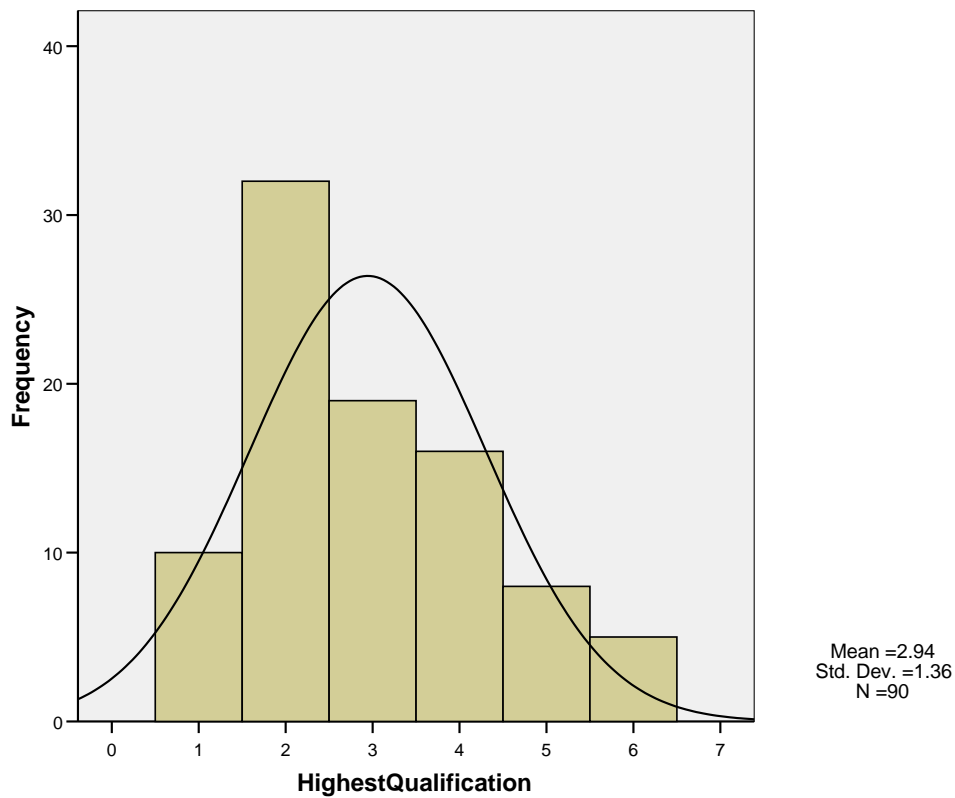
APPENDIX NINE: Histogram and P-Plots of Variables to assess normality

Demographic Predictor Variables:

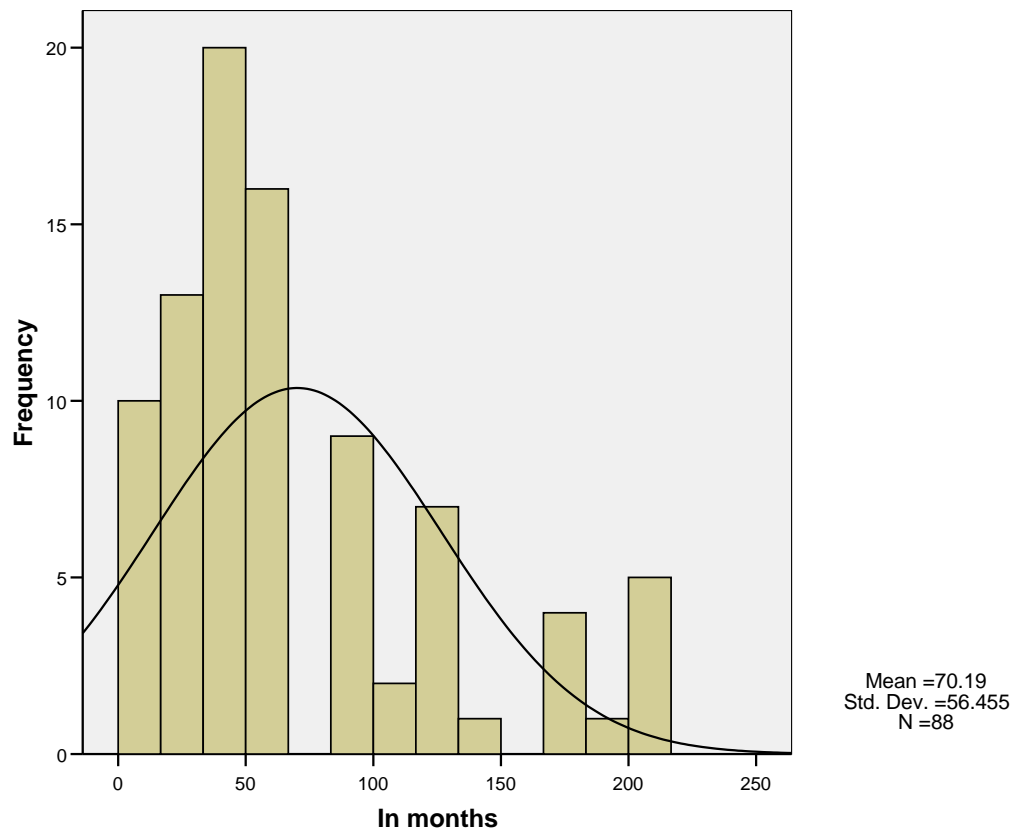
Graph 1: Histogram with normal curve for Age.



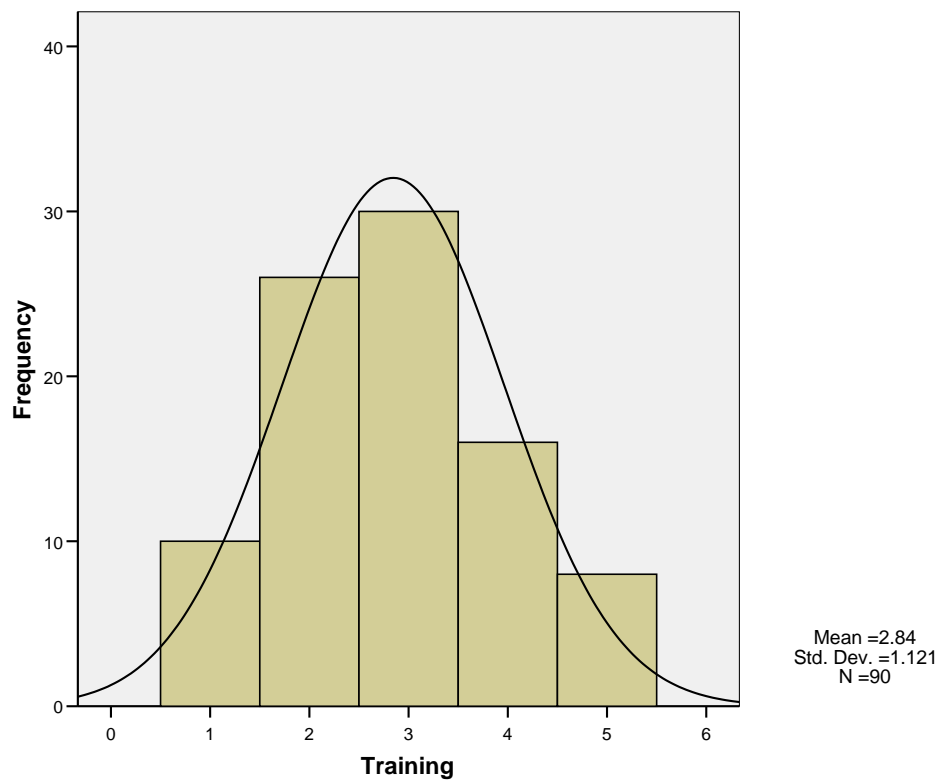
Graph 2: Histogram with normal curve for Qualification



Graph 3: Histogram with normal curve for Experience

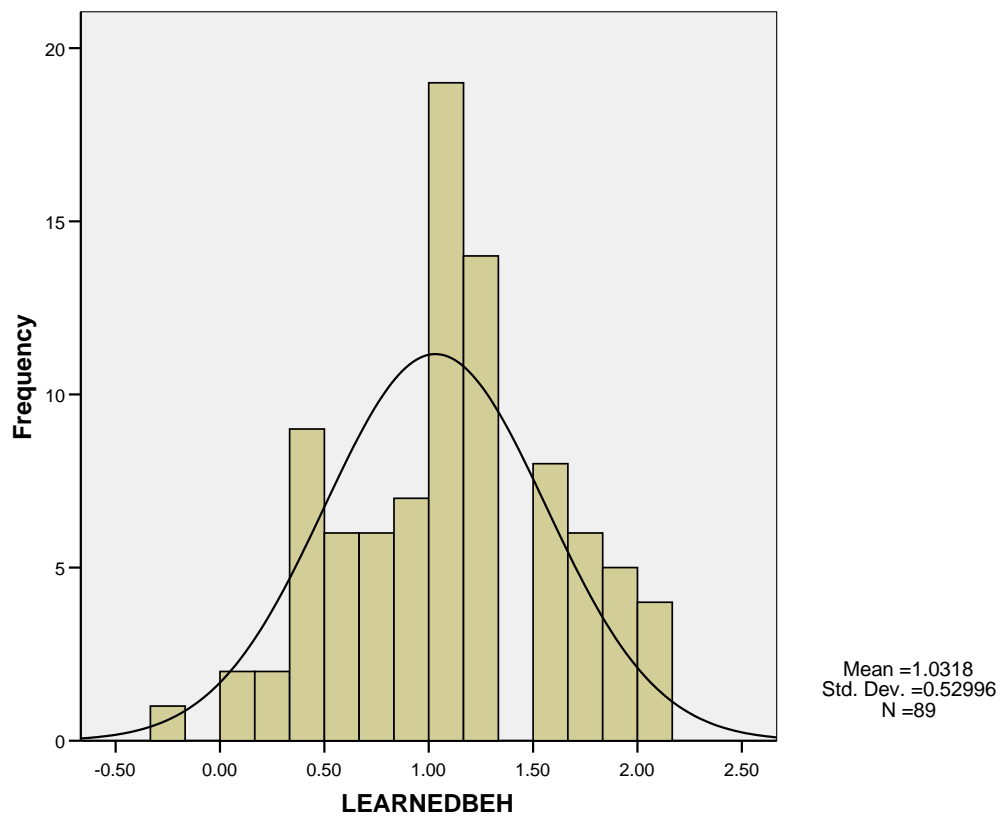


Graph 4: Histogram with normal curve for Training

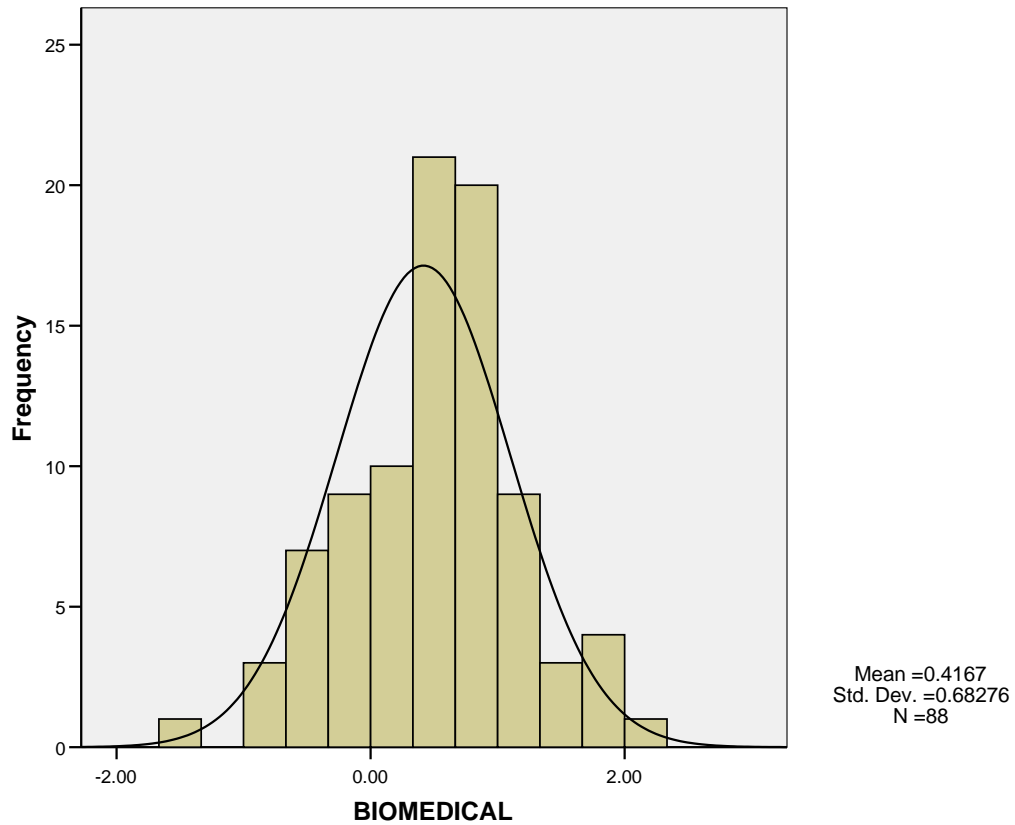


CHABA Subscales

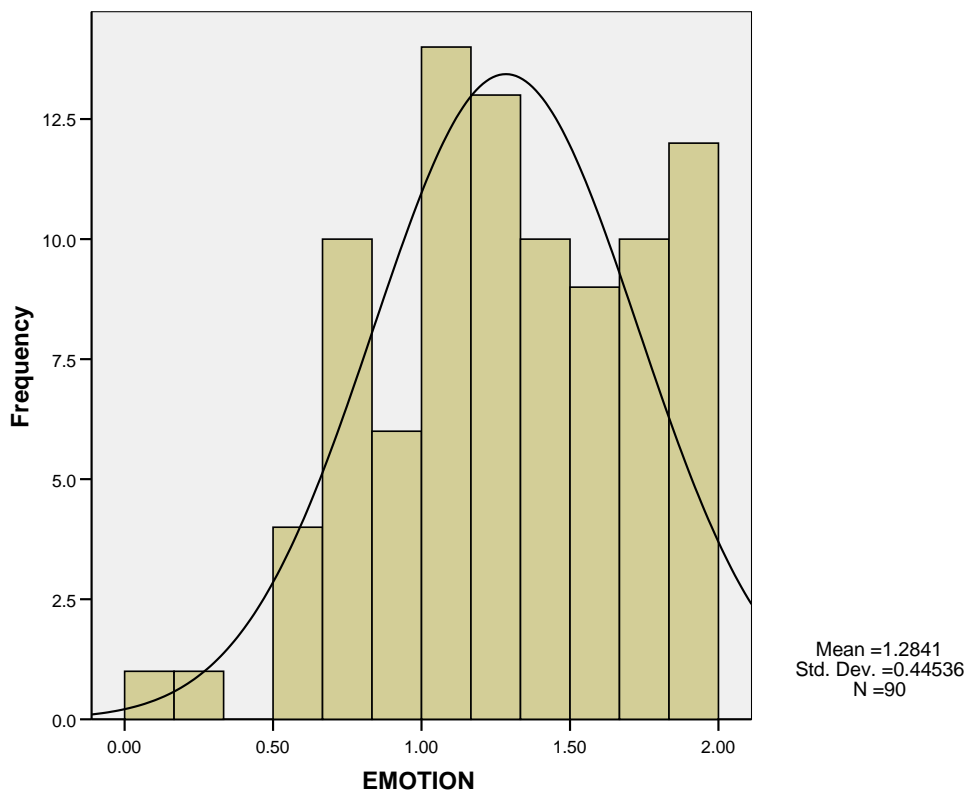
Graph 5: Histogram with normal curve for Learned Behaviour



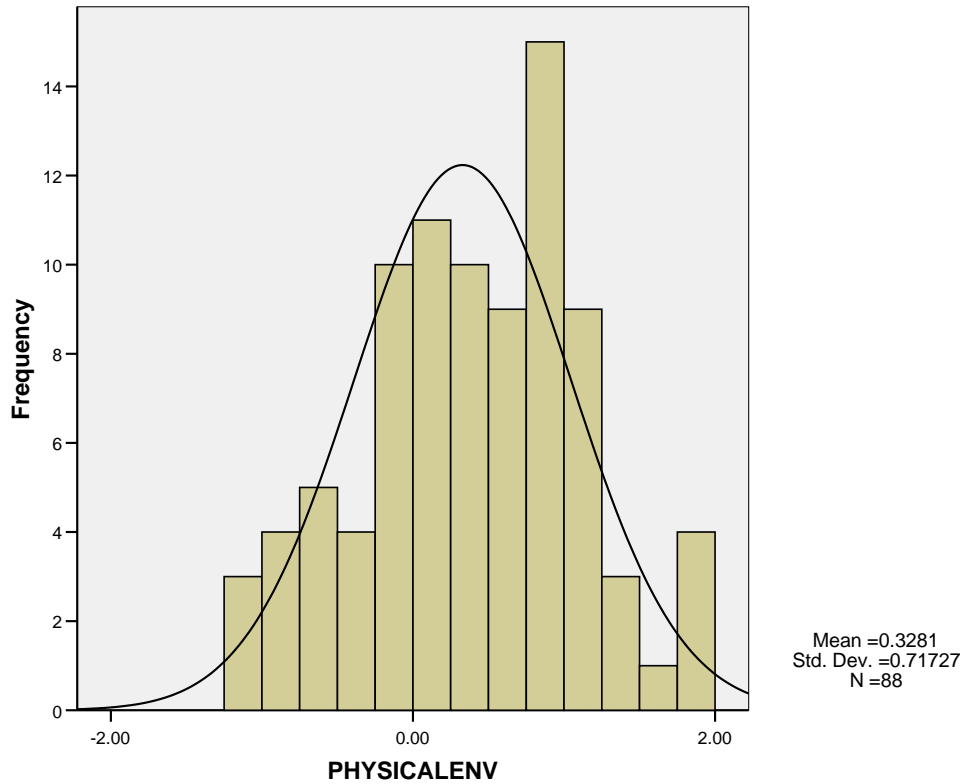
Graph 6: Histogram with normal curve for Biomedical



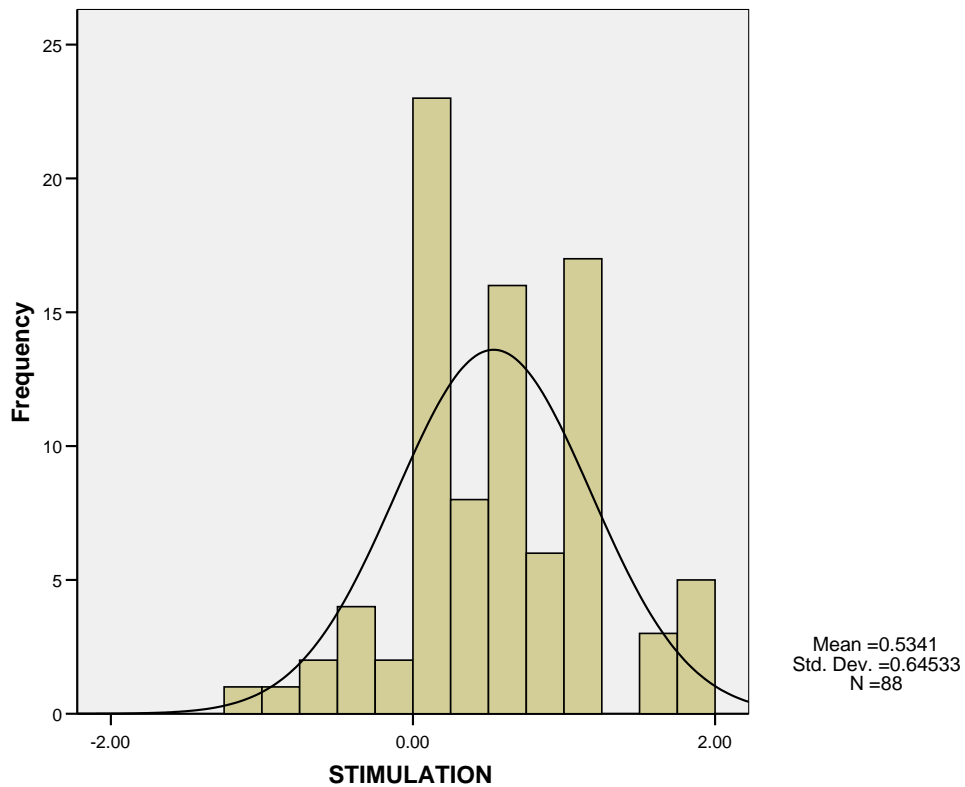
Graph 7: Histogram with normal curve for Emotional



Graph 8: Histogram with normal curve for Physical Environment

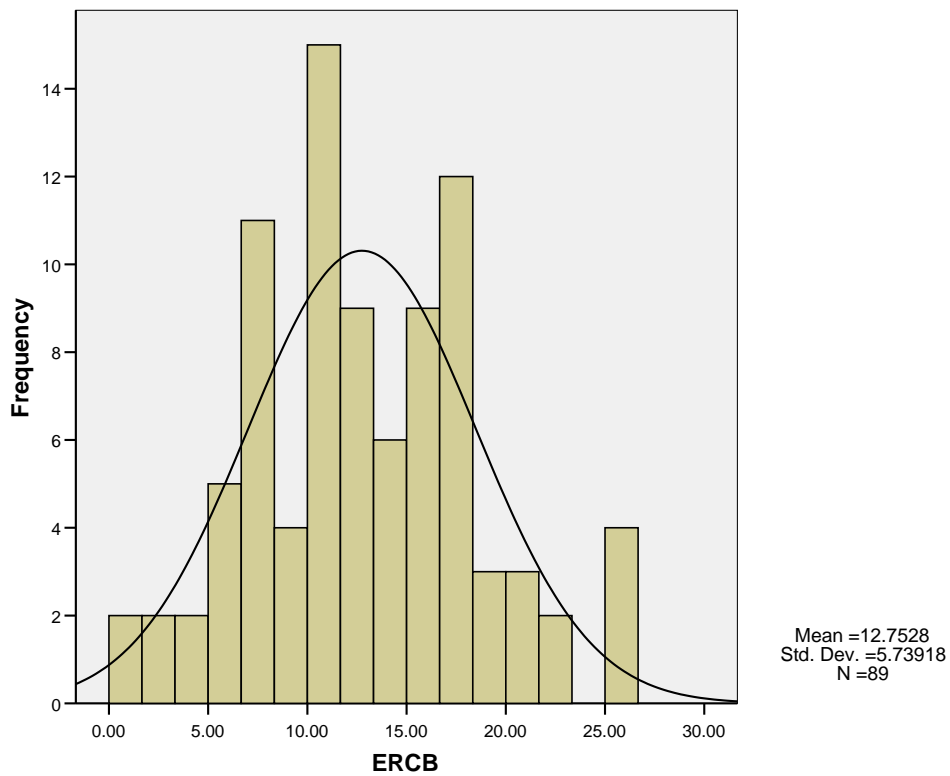


Graph 9: Histogram with normal curve for Stimulation

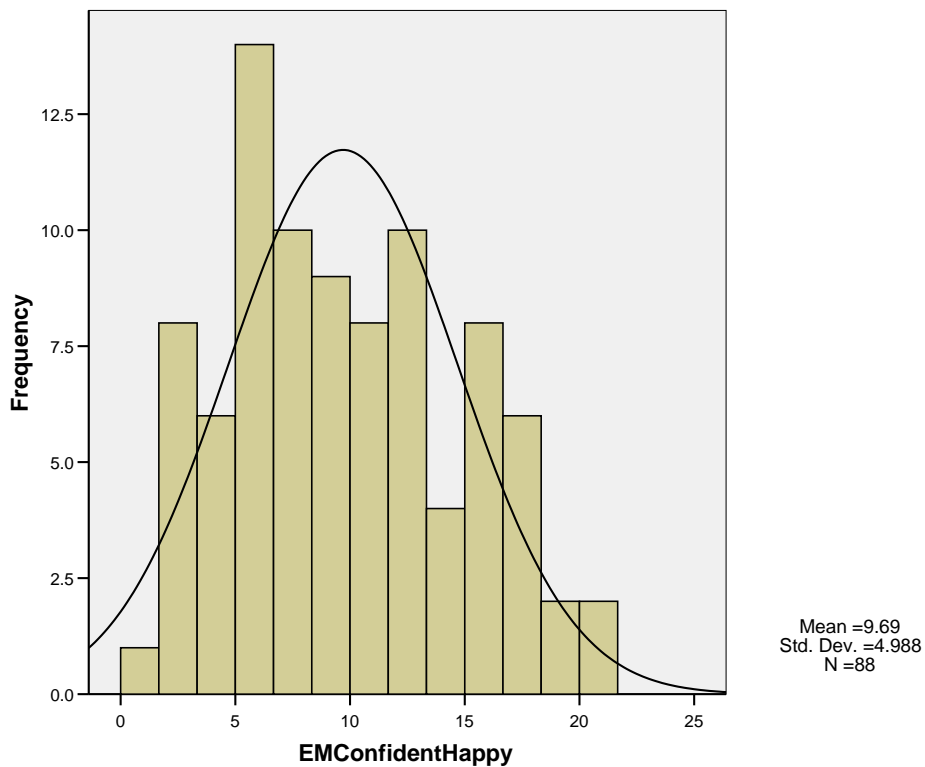


ERCB Subscales

Graph 10: Histogram with normal curve for ERCB Negative



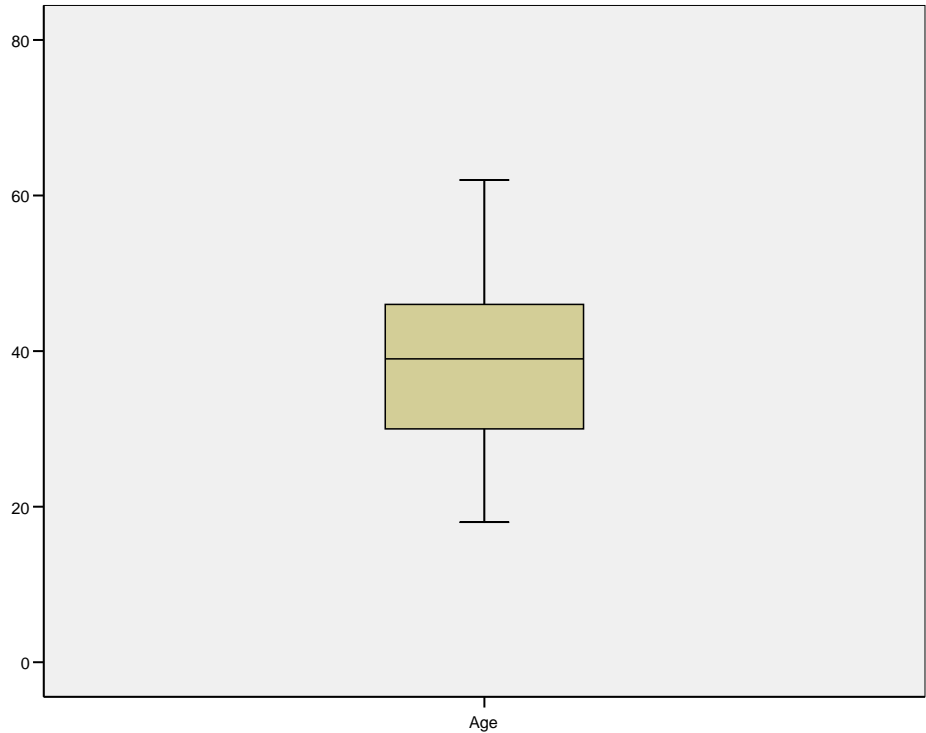
Graph 11: Histogram with normal curve for ERCB Positive



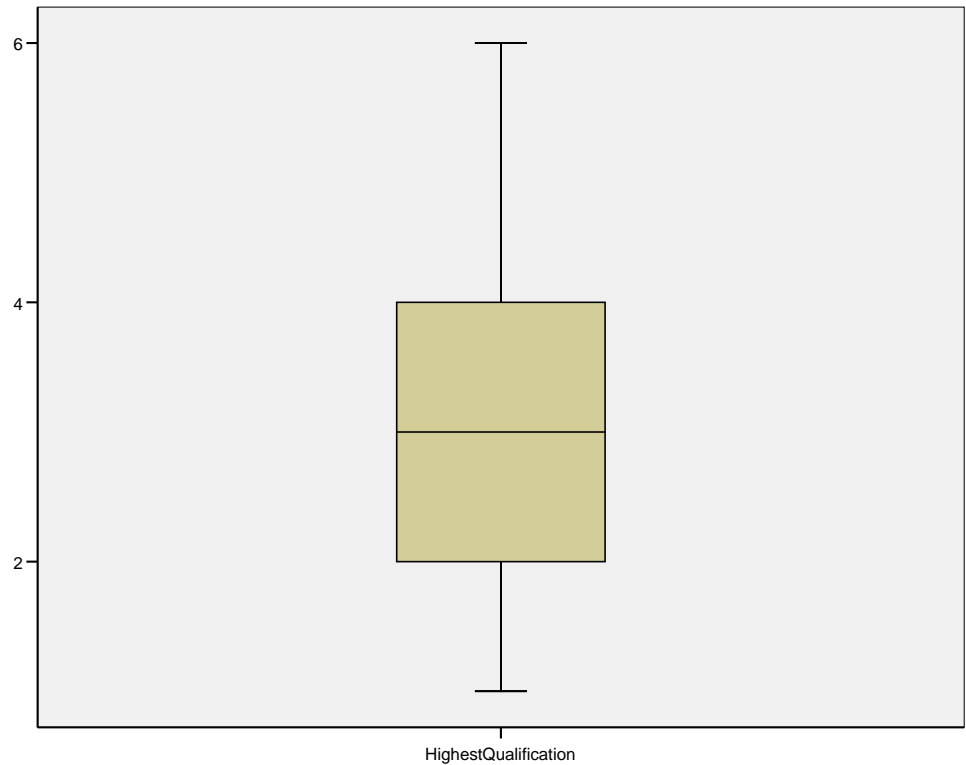
APPENDIX TEN: Box Plots to Assess Outliers

Demographic Variables

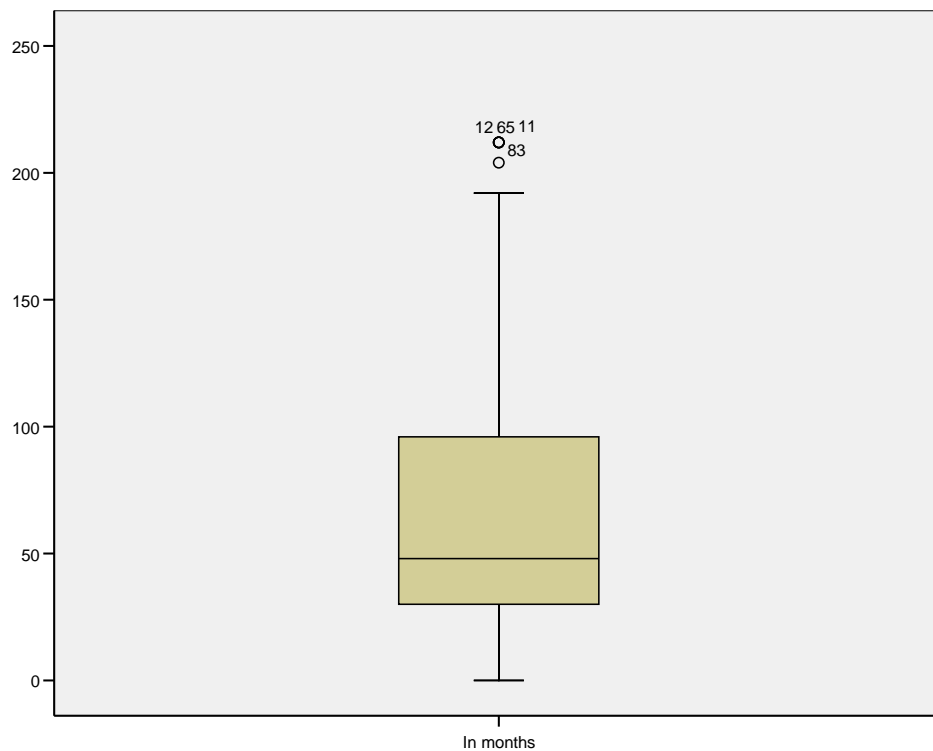
Graph 12: Box Plot for Age



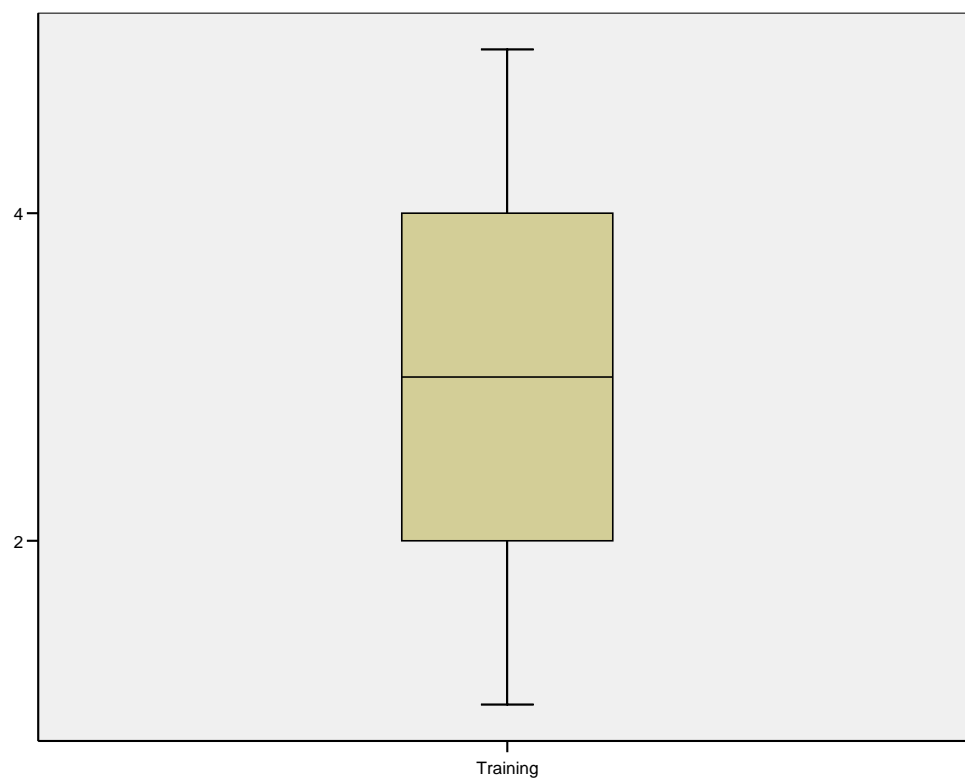
Graph 13: Box Plot for Qualification



Graph 14: Box Plot for Experience

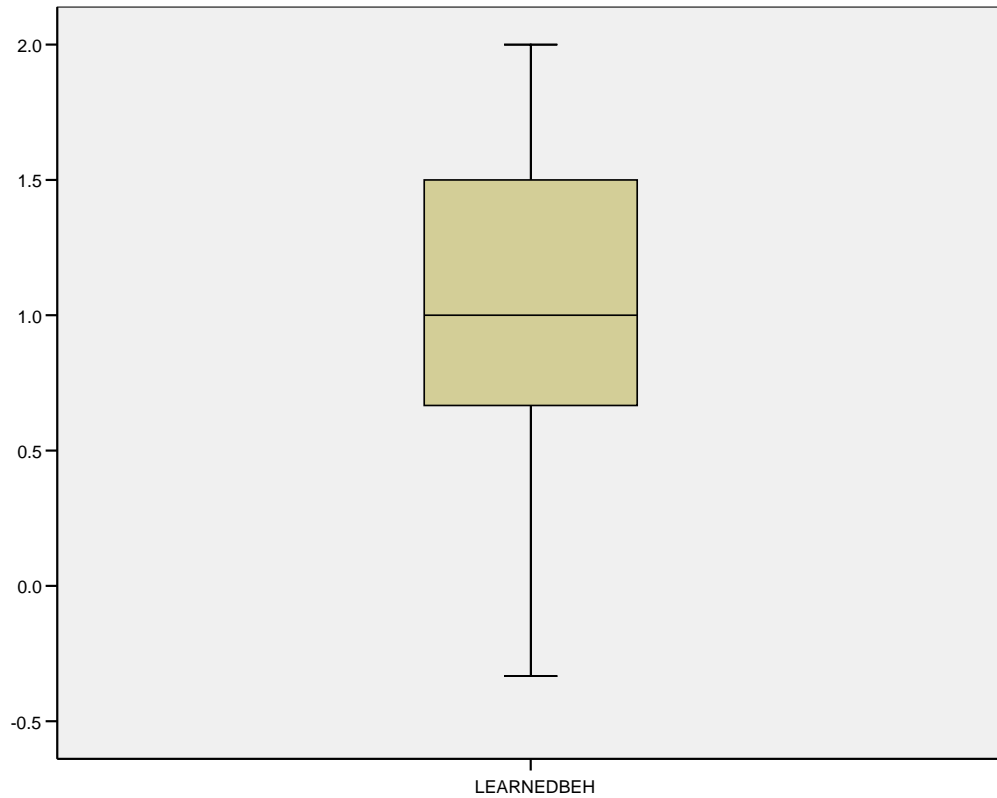


Graph 15: Box Plot for Training

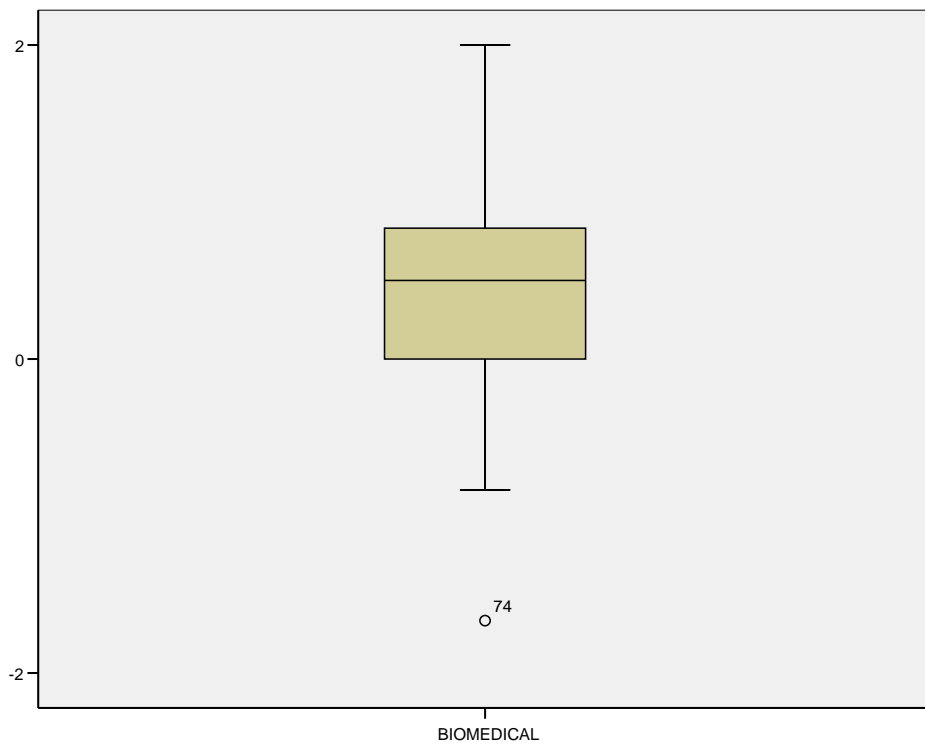


CHABA Subscales

Graph 16: Box Plot for Learned Behaviour



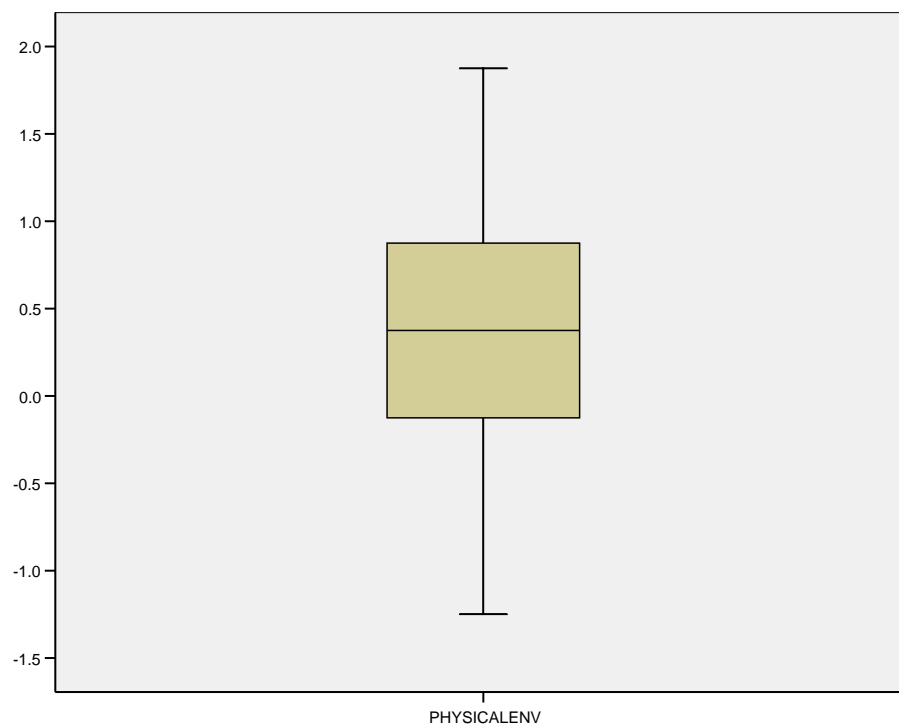
Graph 17: Box Plot for Biomedical



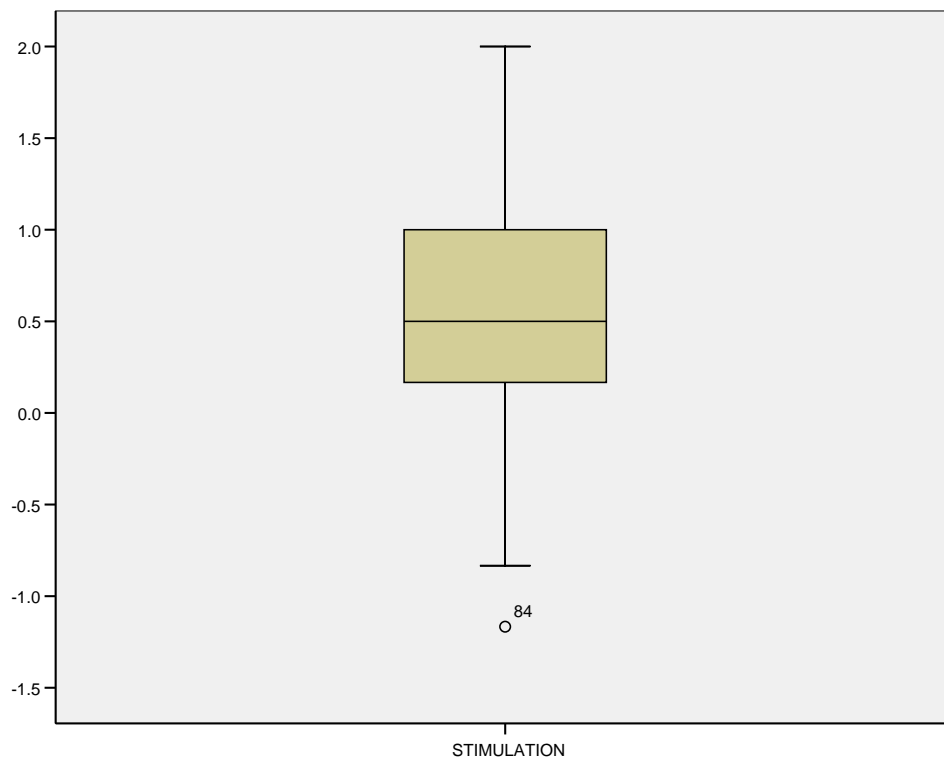
Graph 18: Box Plot for Emotional



Graph 19: Box Plot for Physical Environment

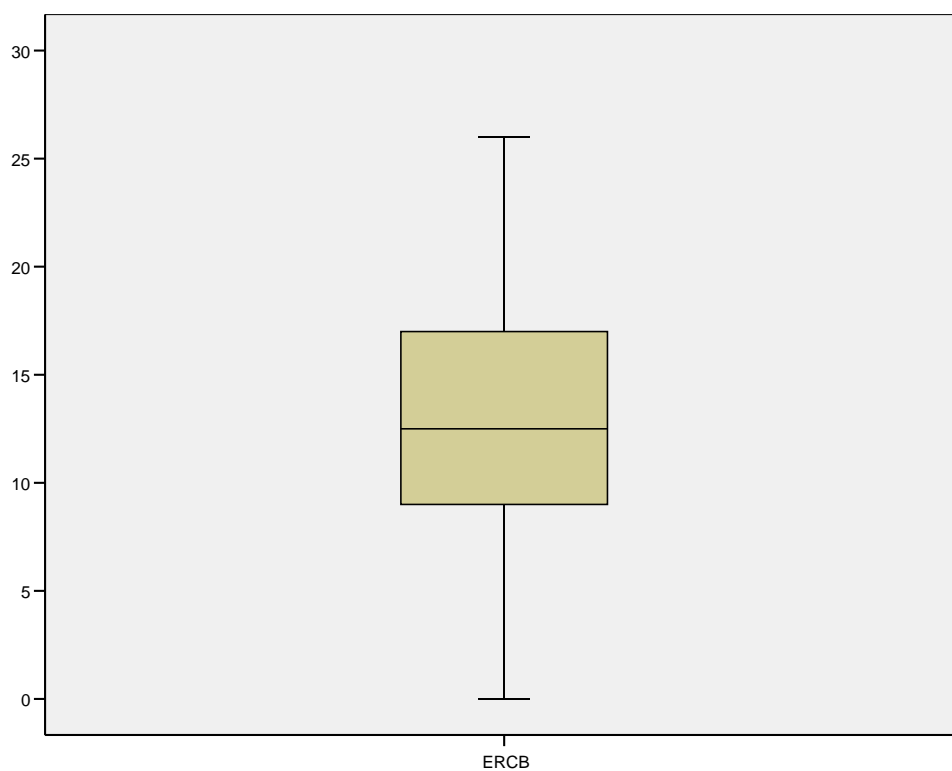


Graph 20: Box Plot for Stimulation

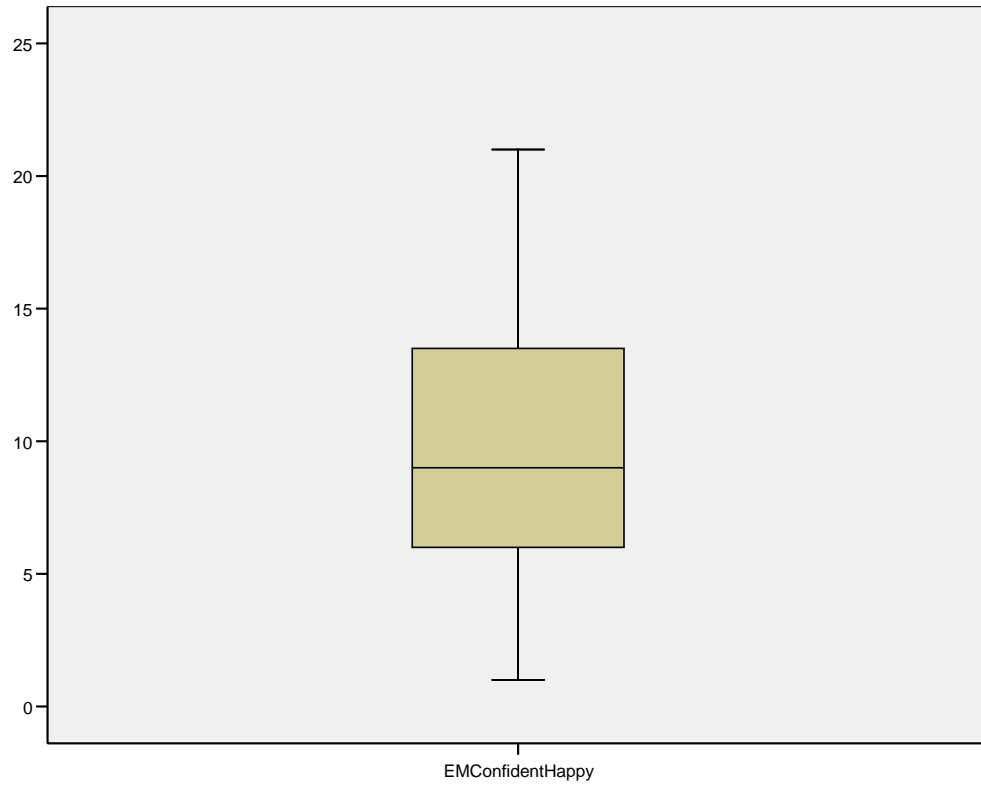


ERCB Subscales

Graph 21: Box Plot for ERCB Negative



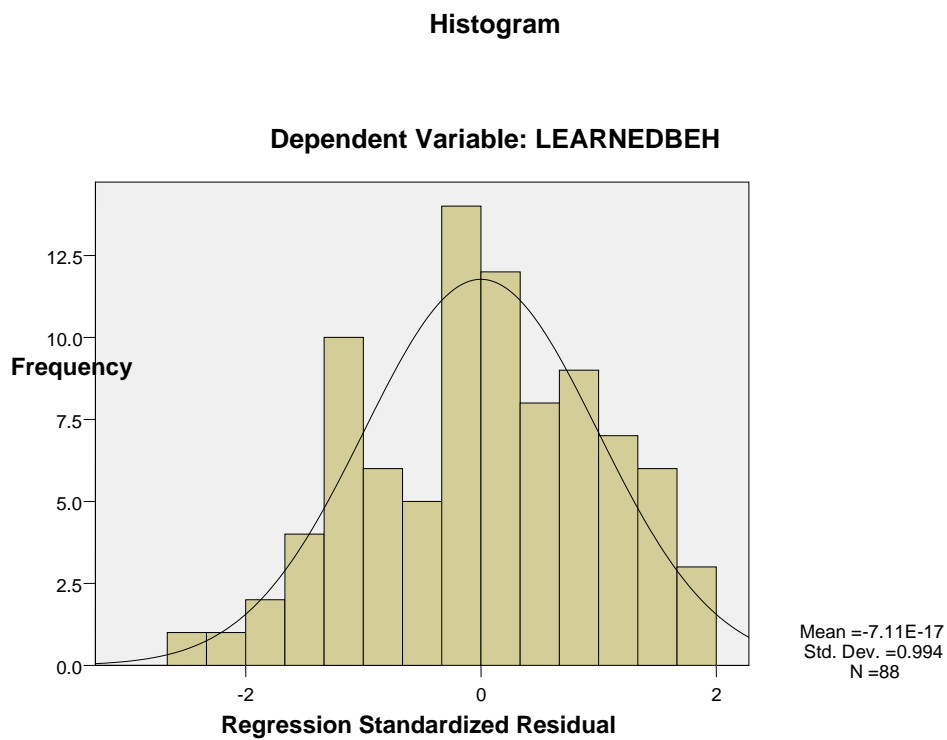
Graph 22: Box Plot for ERCB Positive



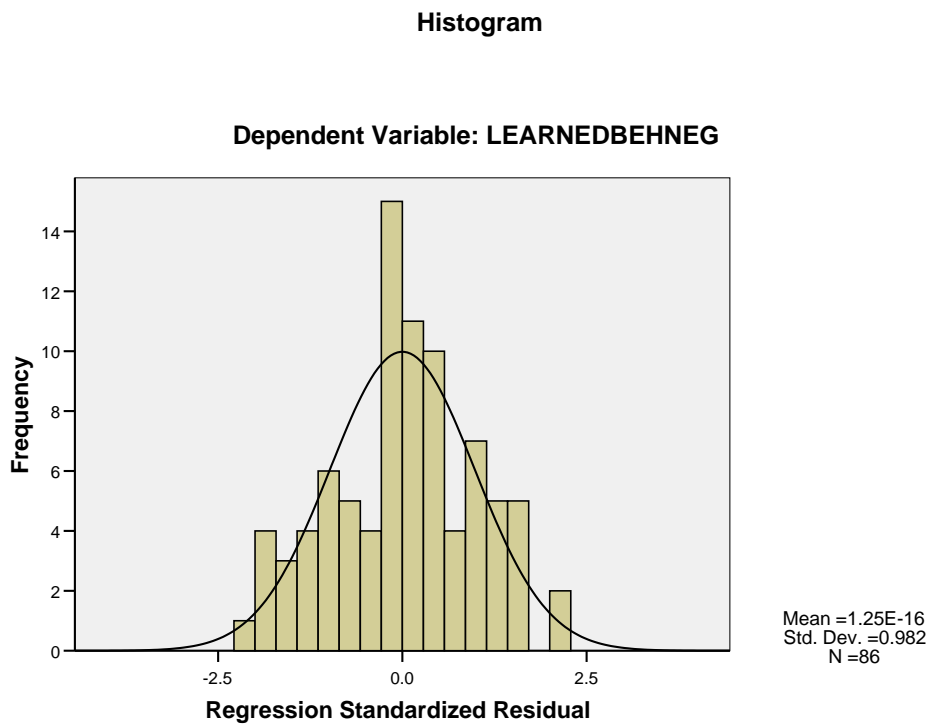
APPENDIX ELEVEN: Normal distribution of errors for Regression Models

Regression Models with demographic variables as predictors

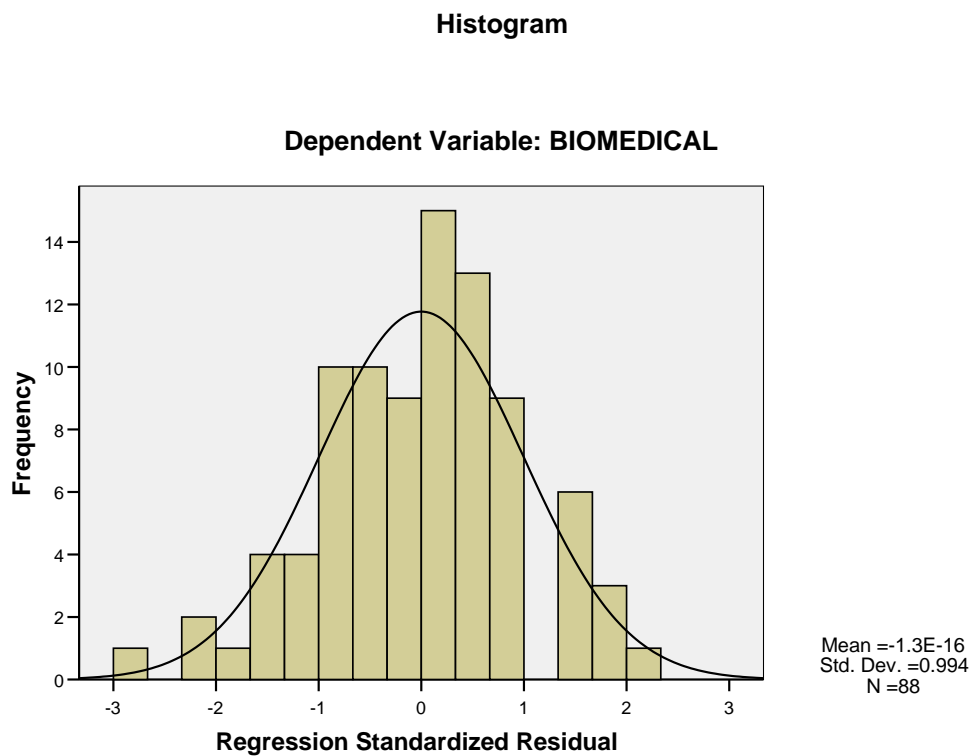
Graph 23: Normal distribution of errors for Learned Behaviour regression model



Graph 24: Normal distribution of errors for Learned Behaviour Negative regression model

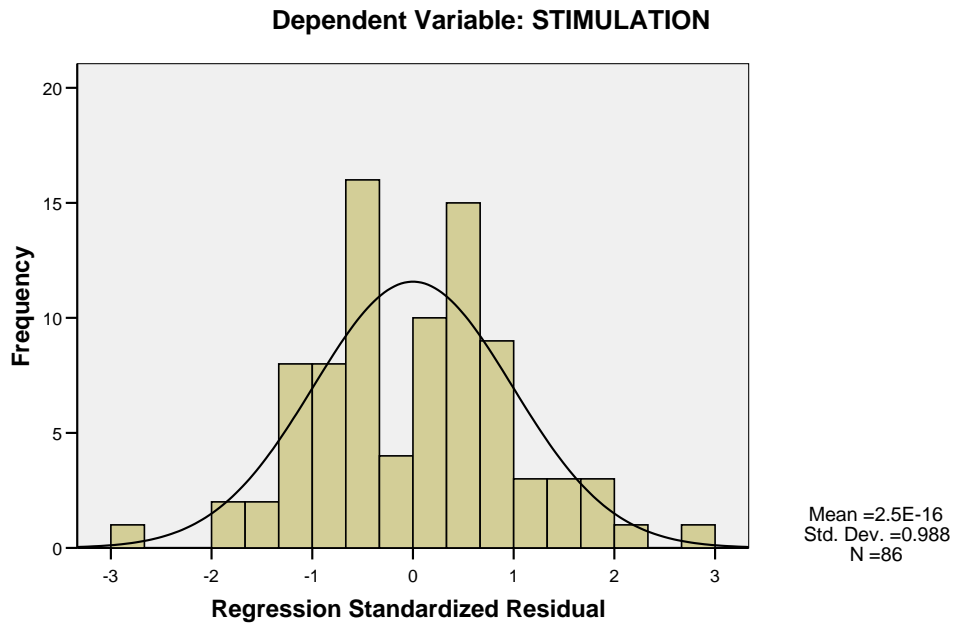


Graph 25: Normal distribution of errors for Biomedical regression model



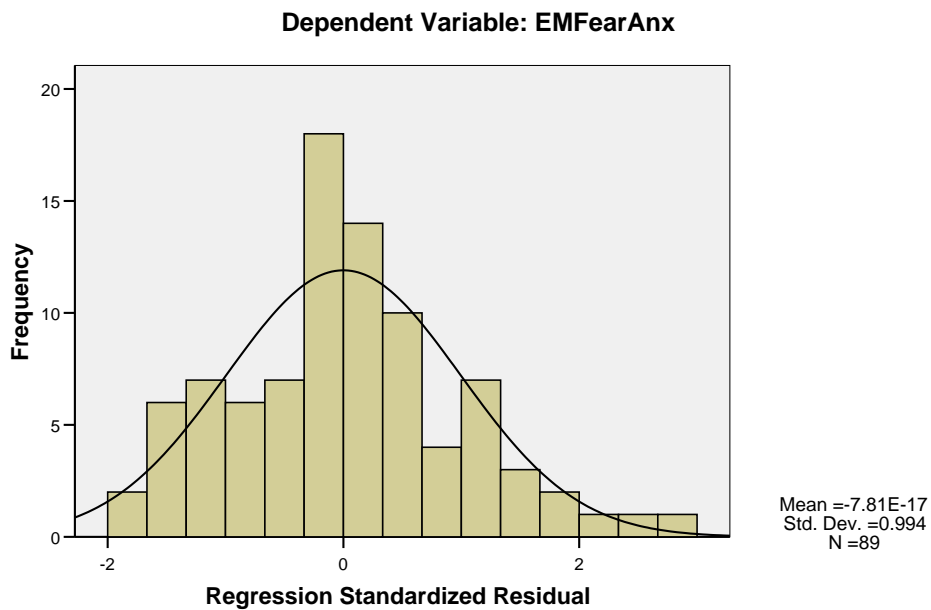
Graph 26: Normal distribution of errors for Stimulation regression model

Histogram



Graph 27: Normal distribution of errors for ERCB (Fear/Anxiety) regression model

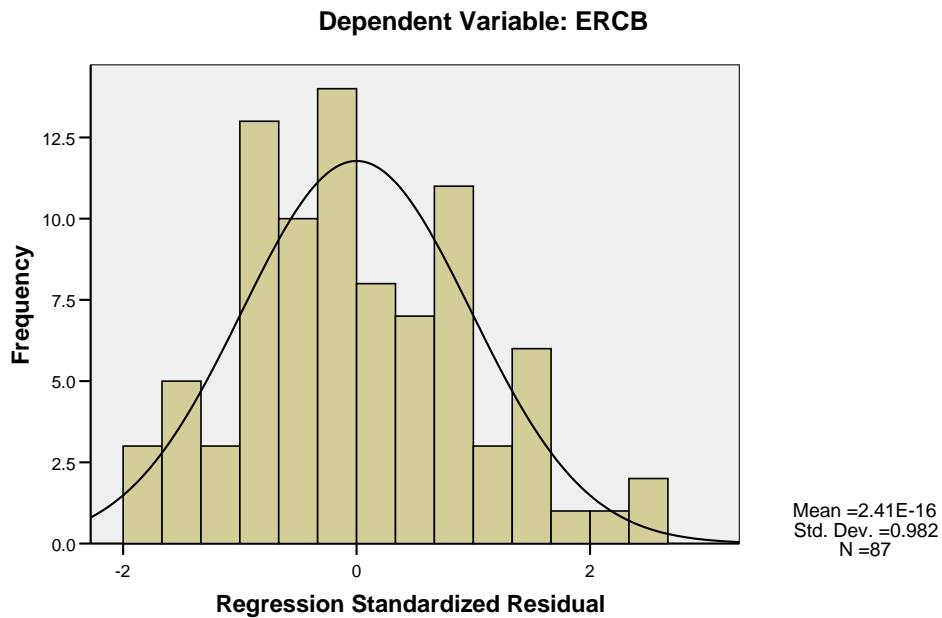
Histogram



Regression Models with CHABA as predictor variable

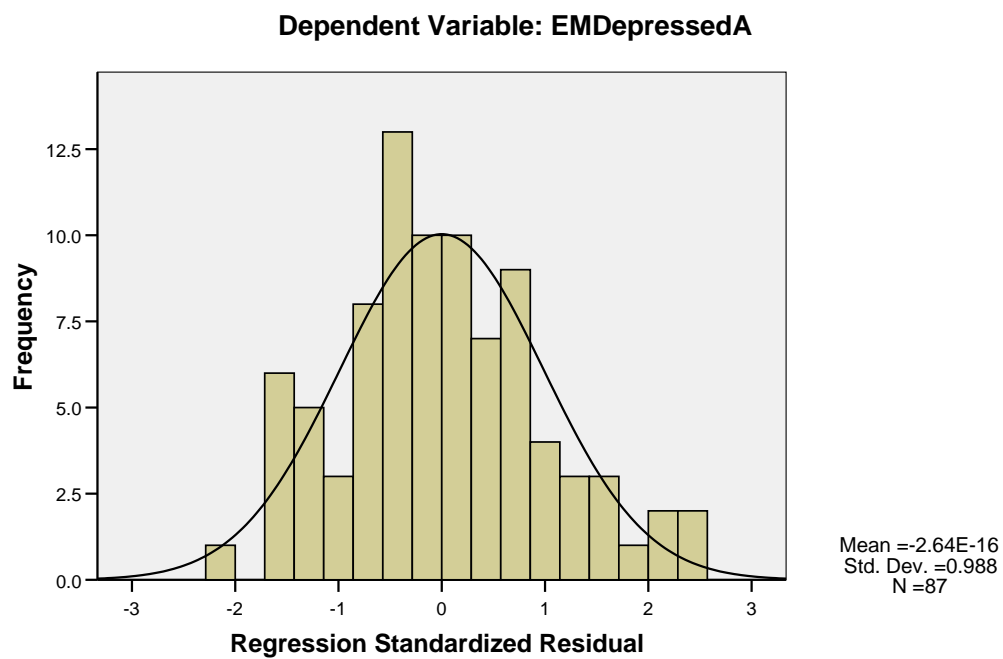
Graph 28: Normal distribution of errors for ERCB Negative regression model

Histogram

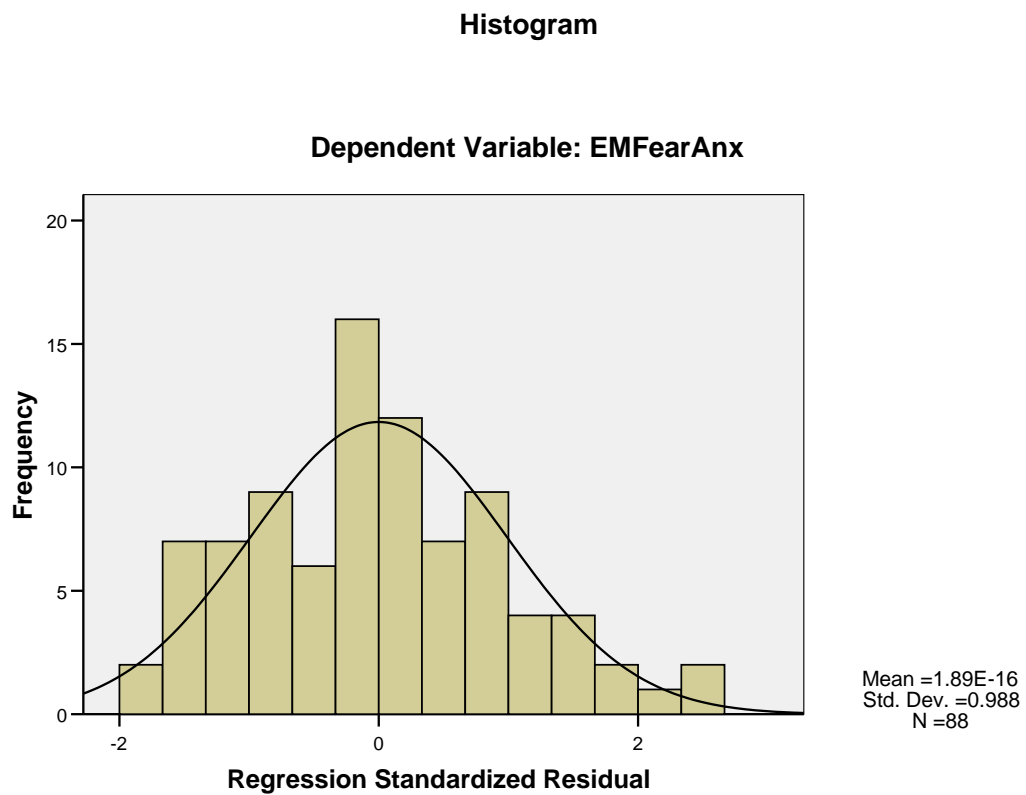


Graph 29: Normal distribution of errors for ERCB (Depression/Anger) regression model

Histogram



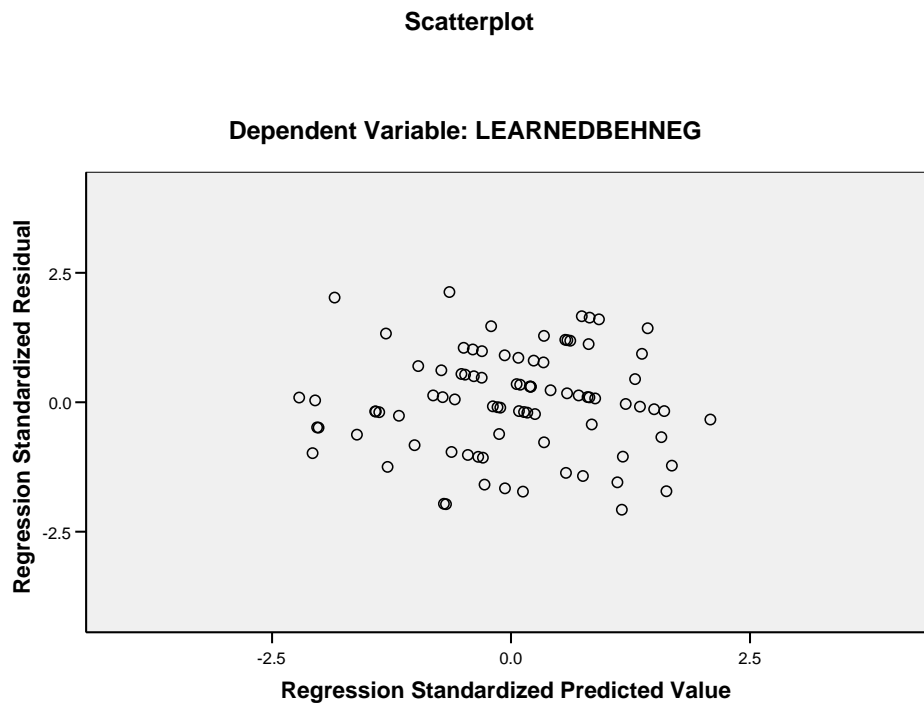
Graph 30: Normal distribution of errors for ERCB (Fear/Anxiety) regression model



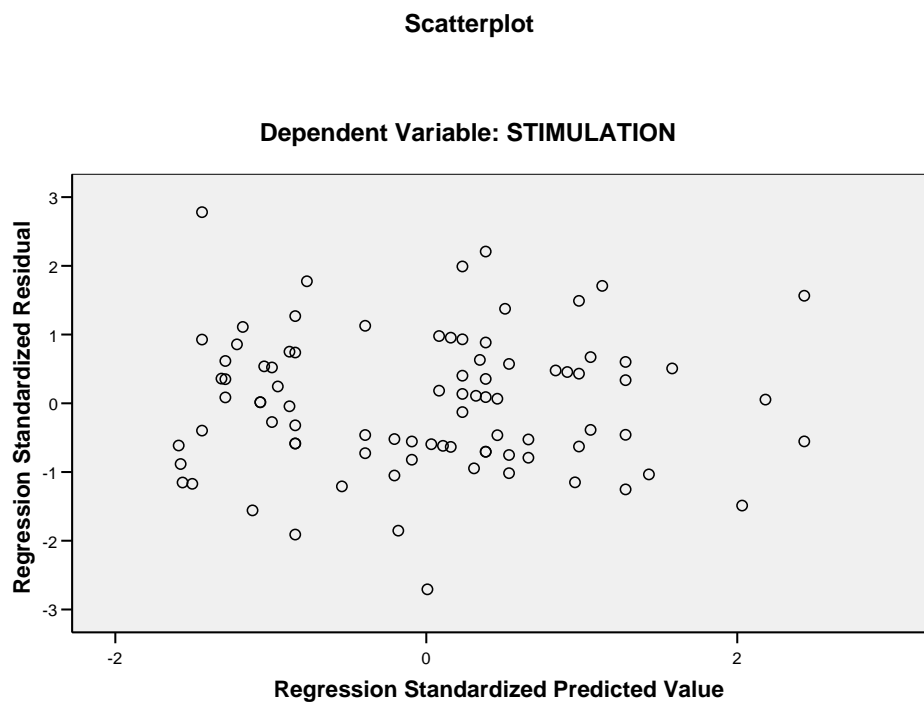
APPENDIX TWELVE: Linearity Plots

Regression Models with Demographic variables as predictor

Graph 31: Linearity plot for Learned Behaviour Negative regression model

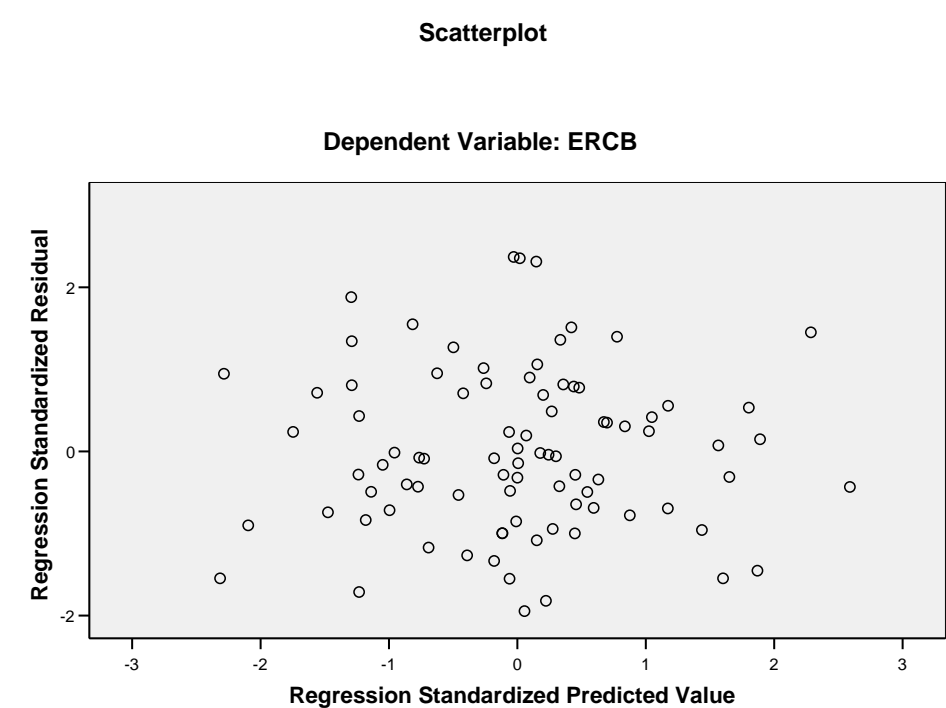


Graph 32: Linearity plot for Stimulation regression model

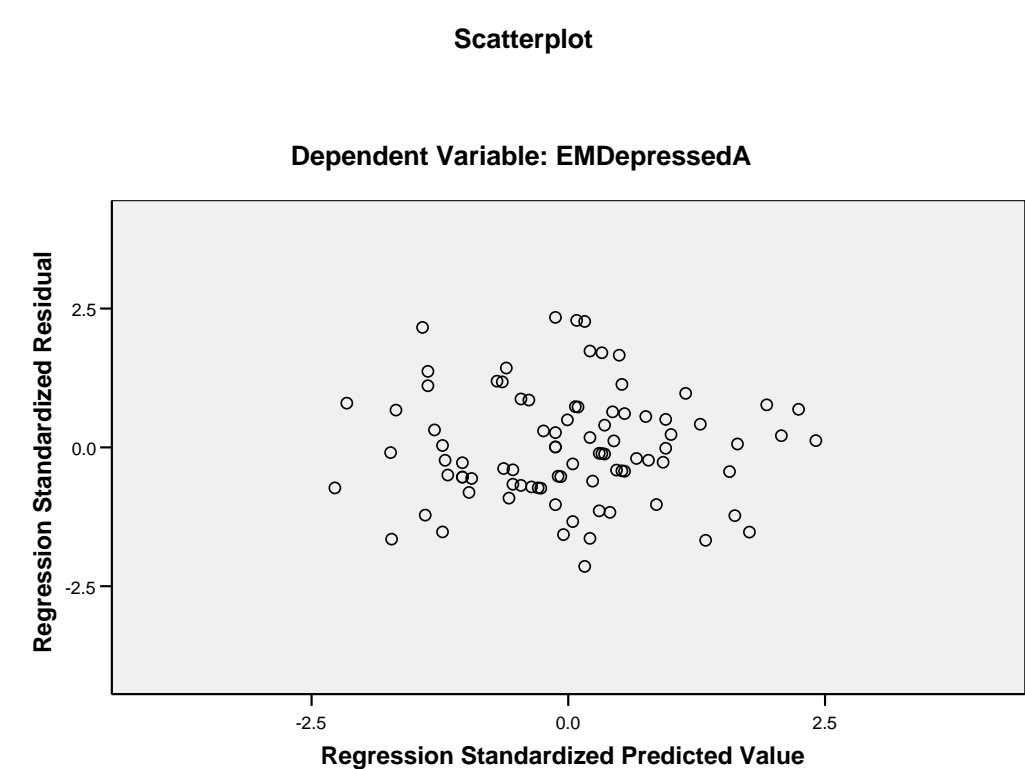


Regression Models with CHABA predictor variables

Graph 33: Linearity plot for ERCB regression model



Graph 34: Linearity plot for ERCB (Depression/Anger) regression model



Graph 35: Linearity plot for ERCB (Fear/Anxiety) regression model

